

OPERATION MANUAL

MAV-555 and DMAT

For Super Motion System

While recording live feeds,
you can do slow replay, manage CLIPs,
and create PLAYLISTs.



Sony Electronics Inc.

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Operation Manual of MAV555 & DMAT for Super Motion System

1. Scope

This document describes how to set up and operate Sony MAV555 and DNF¹ DMAT² controller for Super Motion System. This document is based on MAV555 super motion configuration with ver2.00SSbeta4 and DMAT ver4.0 020101. You can get DMAT manual from DNF web site.

2. General Procedure

Following is a general procedure to use MAV555 and DMAT controller.
Items in parentheses are not necessary once they are done.

PREPARATION

Power On MAV555 and DMAT

(Setup of MAV555 and reboot MAV555 if necessary to validate setup)

(Select LTC for time code display at each port with Meter Panel.)

Clear unnecessary materials from MAV555.

(Setup DMAT)

Clear CLIP and PLAYLIST information from DMAT.

Decide Loop Recording Length

Start Recording with DMAT

OPERATION

Slow Replay, MARK CUE, Create CLIP, Create PLAYLIST

MELTING and TEAR DOWN

Stop Precording

Melting materials to Tape

Power Off MAV555 and DMAT

¹ DNF CONTROLS: www.dnfcontrols.com

² DMAT stands for Don't Miss a Thing.

3. Preparation

3.1 Power On MAV555 and DMAT

To Power ON MAV555

Turn on Power switch of MAV555 behind a control panel.

It takes about one minute to boot.

To Power ON DMAT

Connect AC cable to turn on/off DMAT, because DMAT does not have a power switch.

Do not hot plug/unplug D-sub connector of power at the rear panel of DMAT.

There is no special procedure for MAV555 and DMAT to power on and off.

When you power on DMAT before MAV555 finishes booting, there is a warning of no communication of RS422 on DMAT. You need to press [RETRY] on DMAT when MAV555 finishes booting.

3.2 Setup of MAV555 and reboot

This is not necessary once this is done.

3.2.1 Setup of MAV555

Item #	Setting	Default	Reboot	Item
006	all disable	all disable	No Need	LOCAL FUNCTION ENABLE
010	525/60: NTSC	525/60: NTSC	Need	525/625
012	DF	DF	Need	DROP FRAME MODE
014	PB	PB	No Need	PB PB/EE SELECT P2
019	PANEL	PANEL	Need	SYSTEM OPERATION CONFIGURATION
035	30 or 40 or 50³	50M bps	Need	VIDEO COMP RATE
040	BKMA520SS	Std	Need	OPTION BOARD, SLOT7, 8
	BKMA530	none	Need	OPTION BOARD, SLOT4, 5
041	Sony Super Motion	Sony Super Motion	Need	SS/SD SELECT
051	ON	OFF	No Need	LINE SUPER IMPOSE P2
105	OFF	OFF	No Need	SYNCHRONIZE
106	x32	x32	No Need	MAXIMUM SHUTTLE SPEED
107	x4	x4	No Need	MAXIMUM JOG SPEED
109	ON	OFF	No Need	ENFORCED EE (This is essential set up)
120	REF	REF	No Need	OUTPUT REF LOCK
352	INHI OFF	INHI OFF	No Need	REC INHIBIT R1
633	TC	TC	No Need	TCG MODE R1 REGEN MODE
	PRESET	PRESET	No Need	TCG MODE R1 REGEN/PRESET
	EXT	EXT	No Need	TCG MODE R1 INT/EXT
	FREE RUN	REC RUN	No Need	TCG MODE R1 REC RUN/FREE RUN
	LTC	LTC	No Need	TCG MODE R1 REGEN SOURCE
643	OFF	OFF	No Need	PB TC REPLACE P2
670	SYSTEM TC	SYSTEM TC	No Need	LTC SELECT R1

You can change set up menu with Meter Panel⁴. Press [MENU] on the Meter panel, then a menu item is displayed on the Meter Panel, and also on the monitor output of both SDI and Analog Composite. To access items over #100, Dip SW "S300-1" on EM-1 board must be "ON", though factory default is "OFF".

3.2.2 Reboot MAV555 if necessary

Some setup items require reboot to make them effective.

To reboot MAV555

(A) Fast Reboot: This is faster than (B) because HDDs are still rotating.

Press [MENU]

Rotate VIDEO PROCESS knob and select "MENU027, FAST REBOOT"

Press VIDEO PROCESS knob

Follow the direction shown on the monitor

(B) Power off and Power on

When you select an item, you can see small character "B" or "I" on the monitor output. "B" shows that three banks can have different set up value. "I" shows that the item is effective immediately without rebooting.

³ Please refer Chapter 3.7 Decide Loop Recording Length

⁴ Meter Panel is an upper part of Front Panel. A lower part of Front Panel is called as Control Panel.

3.3 Select LTC for time code display on MAV555

This is not necessary once this is done.

To select LTC on R1

- Press "R1" at PORT SELECT of Meter Panel.
- Confirm if "REMOTE" is selected at the Meter panel.
 - If not, press [REMOTE]
- Confirm if time code is displayed on the LCD of Meter panel.
 - If not, press [TOTAL/REMAIN] until time code is displayed.
- Confirm if the word "LTC" is displayed at R1 part on the LCD of Meter panel.
 - If not, press [TC DISPLAY] until the word "LTC" is displayed.

To select LTC on P2

- Press "P2" at PORT SELECT of Meter Panel.
- Confirm if "REMOTE" is selected at the Meter panel.
 - If not, press [REMOTE]
- Confirm if time code is displayed on the LCD of Meter panel.
 - If not, press [TOTAL/REMAIN] until time code is displayed.
- Confirm if the word "LTC" is displayed at P2 part on the LCD of Meter panel.
 - If not, press [TC DISPLAY] until the word "LTC" is displayed.

3.4 Clear unnecessary materials from MAV555.

Delete unnecessary materials to secure recording capacity as followings.

To Delete unnecessary materials

(A) One by One Deletion

- Select "P2" with PORT SELECT of Meter Panel.
- Confirm if "REMOTE" is selected at the Meter panel.
 - If not, press [REMOTE]
- Select a material that you want to delete with [MULTI CONTROL] on the control panel.
- Press [SHIFT] + [B6](DELETE)
 - If the material is protected or loaded on any port, [DELETE] is dimmed and you can not delete it.
- Press [SHIFT] + [B7](OK)

(B) Batch Deletion: You can delete all materials except protected or loaded, with one operation

- Select "P2" with PORT SELECT of Meter Panel.
- Confirm if "REMOTE" is selected at the Meter panel.
 - If not, press [REMOTE]
- Select a material that you want to delete with [MULTI CONTROL] on the control panel.
- Press [SHIFT] + [B6](DELETE)
 - If the material is protected or loaded on any port, [DELETE] is dimmed and you can not delete it.
- Press [SHIFT] + [B4](BATCH DELETE)
- Press [SHIFT] + [B7](OK)

(C) Logical Format: You can delete all materials at once.

- Press [MENU]
- Rotate VIDEO PROCESS knob and select MENU 099 ALL ERASE
- Execute ALL ERASE

3.5 Setup DMAT

This is not necessary once this is done.

FYI: An italic word in parentheses such as [*SET&CLEAR*] is a soft key at the top row on a DMAT.

To display setup items and firmware version

Press [MENU]

This manual is described based on ver 4.0, 020101.

To escape from setup display

Press [ESC]

“SUPER SLOW” must be selected at “MAV CONFIGURATION”.

You can set as you like about other items.

To change setup

Press [MENU]

Rotate JOG knob to select items

Press [*CHANGE*]

Follow the direction on the screen according to each item.

To set factory default

Press [MENU]

Press [*SET&CLEAR*]

Press [*SET DEFLT*]

Press [OK]

Default values are followings.

ITEM	Default Value
CLIP HANDLE	5 sec
WIND SPEED	+04, HOLD
STANDARD	NTSC
TIME CODE	LTC
AUTO SAVE	OFF
CLIP OUT	FREEZE
PLAYLIST OUT	FREEZE
MAV CONFIG	2 PGM w/ EFX

3.6 Clear CLIP and PLAYLIST information from DMAT

CLIP and PLAYLIST information inside DMAT is non-volatile. You need to clear these old data, before you start recording.

To clear CLIP and PLAYLIST information from DMAT

Press [MENU]

Press [*SET&CLEAR*]

Press [*CLEAR MEMORY*]

Press [OK]

Press [OK]

3.7 Decide Loop Recording Length

3.7.1 Max. Recording Time

Here is Max. recording time. This number is real time basis. You can get this number when there is no material in MAV555.

Max. Recording Time	30Mbps	40Mbps	50Mbps
MAV555/18	3H13M	2H26M	1H53M
MAV555/36	6H26M	4H52M	3H46M

3.7.2 Total Remaining Time and Loop Recording Length

When there are some materials in MAV555, remaining time is shorter than that of above.

To get Total Remaining Time

Press [TOTAL/REMAIN] on the Meter Panel.

Total remaining time shown on the Meter Panel is number of frame basis. You need to divide the number by 3 to get the real time. Total Remaining Time is shared between Loop Recording and CLIPs. You must decide Loop Recording Length before start recording.

Example: MAV555/18, bit rate is 30Mbps

When Total Remaining Time is 09:00:00:00, recording time is 3H in real time basis.

If a game duration is 2.5H, you can use the number 02:30:00:00 as Loop Recording Length when you start recording with DMAT.

If a game might be longer than 3H, and you will create 1 hour of CLIPs, you can use the number 02:00:00:00 as Loop Recording Length when you start recording with DMAT.

You can gain Total Remaining Time by deleting materials as described at Chapter 3.4, or by changing bit rate of video quality as following.

You can choose video compression bit rate from 30, 40 and 50Mbps. You need to calculate remaining time at another bit rate with proportion. 50Mbps picture quality is superb like Digital-Betacam. Even 30Mbps picture has good enough quality depending on S/N and complexity of incoming video. Total Remaining Time is not updated until rebooting.

To change video compression rate

Press [MENU]

Rotate VIDEO PROCESS knob and select "MENU 035 VIDEO COMP RATE"

Choose bit rate from 30, 40 and 50

Reboot MAV555

3.8 Start Recording with DMAT

To start recording

With MAV555 Meter Panel

Confirm if "REMOTE" is selected at R1 and P2 on the Meter Panel of MAV555.

With DMAT

Press [MENU]

Press [*RECORD SETUP*]

Press [*NEW R1 CLIP*]

Enter Material Name for recording with a PC keyboard or numeric keypad of DMAT

Press [ENTER]

The display shows the current Record Loop Length

Type "a new record loop length" with numeric keypad of DMAT, then press [ENTER]

(This number is real time basis)

Press [*START RECORD*]

Press [*RECORD R1*]

Confirm if recording started on Meter Panel of MAV555.

Press [ESC] twice to come back to main screen

4. Operation

With a combination of MAV555 and DMAT controller, you can execute followings while recording.

- Instant Replay
- Mark Cue points and cue up
- Create and Play a CLIP
- Create and Play a PLAYLIST

DMAT has four operational modes, **EE**, **PB**, **CP** and **PL** mode. Details are explained later.

4.1 EE (in any mode)

To get EE video and audio

Press [REC]

“EE” is displayed at the top left corner of LCD to show that it is EE-mode.

4.2 Instant Replay

To start replay in EE-mode

Rotate “JOG DIAL”

You can start JOG at the latest recorded video.

“PB” is displayed at the top left corner to show that it is PB-mode.

In PB mode, you can access to any point in the recorded material.

[RWD], [FFWD], [STOP], [PLAY], [SHUT], “T-Bar” is available in PB-mode.

To catch up latest recorded video in PB mode

Press [SHIFT] + [FFWD]

MAV555 plays back latest recorded video in normal speed.

(There is 2.5 sec latency between REC and PLAY)

To start slow replay

Move “T-bar”

To reverse while slow replay

Press [REV]

To set T-bar speed

Press [SHIFT]+ “Move T-bar”

“FAST JOG” is convenient to search a scene, because you can do JOG 3, 5 or 10 times faster than normal JOG. Speed for FAST JOG is defined in set up of DMAT.

To do FAST JOG

You must be in JOG

Press [JOG]

LED at JOG Flashes to show that you are in FAST JOG

Rotate “JOG dial” for FAST JOG

Press [JOG]

LED at JOG is on to show that you are in normal JOG

4.3 CUE POINT

To Mark CUE POINT based on recording time code

Press [MARK]

You can see a new Cue Point in the CUE LIST at the top right part of the LCD.

Cue point is incremented automatically when you press [MARK] and there are 8 cyclic Cue Points.

To Cue up to current CUE POINT just after Mark the Cue Point in EE or PB mode

Press [NEXT]

or

Press [LAST]

To Cue up to current CUE POINT in EE or PB mode

Press [SHIFT]+[NEXT]

or

Press [SHIFT]+[LAST]

To Cue up to next CUE POINT in EE or PB mode

Press [NEXT]

To Cue up to previous CUE POINT in EE or PB mode

Press [LAST]

To Cue up to a specified CUE POINT in EE or PB mode

Enter Cue number with numeric Key Pad

Press [NEXT] or [LAST]

4.4 CUE UP with Time Code (in EE or PB-mode)

To Cue up with Time Code

Enter Time code with numeric Key Pad

Press [GOTO]

It is in PB-mode now.

4.5 CREATE a CLIP (in EE, PB or CP-mode)

You can create up to 400 CLIPs with IN and OUT point information.

To Create a CLIP in EE-mode

Press [IN]

(You can press [IN] again to change IN point)

Press [OUT]

(You can press [OUT] again to change IN point)

Press [SAVE CLIP]

You can see a new CLIP in the CLIP list at the left part of the LCD.

Next empty CLIP number is allocated automatically when you press [SAVE CLIP].

When a CLIP is created, it is protected from overwriting of loop recording.

To Create a CLIP in PB-mode

Search IN point with JOG, [RWD] or [FFWD]

Press [IN]

Search OUT point with JOG, [RWD] or [FFWD]

Press [OUT]

Press [SAVE CLIP]

To save a clip to a specified CLIP number in EE or PB-mode

Enter CLIP number with numeric Key Pad

Press [SAVE CLIP]

You will overwrite a CLIP if there is an existing CLIP where you specified.

While cueing up in PB or CP mode, you can create a CLIP based on recording time code watching feed video, without disturbing cued up video.

To create a CLIP based on recording time code in PB or CP mode

Press [ALT]+[IN]

Press [ALT]+[OUT]

Press [ALT]+[SAVE CLIP]

MODE	
CLIP Info and CLIP LIST	CUE LIST
	PLAYLIST

LCD of DMAT

4.6 RECALL a CLIP (in any mode)

You can play, trim and delete a CLIP in CP-mode

To recall a current selected clip

Press [RECALL CLIP]

The CLIP is cued up.

“CP” is displayed at the top left corner to show that it is CP-mode.

To recall a next CLIP in CP mode

Press [NEXT]

When you press [NEXT] successively, you can select a CLIP without cueing unnecessary CLIPs.

To recall a previous CLIP in CP mode

Press [LAST]

When you press [LAST] successively, you can select a CLIP without cueing unnecessary CLIPs.

To recall a specified CLIP

Enter CLIP number with numeric Key Pad

Press [RECALL CLIP]

[SCROLL] key is located between [REV] and [SHIFT]

You can scroll CLIPs without CUEUP

To scroll CLIPs in CP mode

Press [SCROLL]

Rotate JOG dial, then you can scroll CLIPs

MAV555 cues up to the CLIP when you stop scrolling

Press any key except [SCROLL] to get out of SCROLL

4.7 CUE UP to IN or OUT point of a CLIP (in CP mode)

To cue up to IN point after recalling a CLIP in CP mode

Press [SHIFT]+[IN]

To cue up to OUT point after recalling a CLIP in CP mode

Press [SHIFT]+[OUT]

4.8 TRIM a CLIP (in CP mode)

When a CLIP is created, certain duration before IN point and after OUT point is included into the CLIP for trimming. This duration is defined as HANDLE in a setup of DMAT. So, you can modify IN or OUT point between “IN - HANDLE” and “OUT + HANDLE”.

To modify IN point after recalling a CLIP

Press [DELETE]+[IN]
Search IN point with JOG, [RWD] or [FFWD]
Press [IN]
Press [SAVE CLIP]

To modify OUT point after recalling a CLIP

Press [DELETE]+[OUT]
Search OUT point with JOG, [RWD] or [FFWD]
Press [OUT]
Press [SAVE CLIP]

4.9 NAME, DELETE, COPY and PROTECT a CLIP (in CP mode)

To Name a CLIP in CP mode

Recall a CLIP you want to name
Press [NAME CLIP]
Enter a CLIP name with PC Keyboard or numeric Key Pad of DMAT
Press [ESC]

To Delete a CLIP in CP mode

Recall a CLIP you want to delete
Press [SHIFT]+[DELETE]

To Copy a CLIP in CP mode

Recall a CLIP you want to copy
Enter a destination CLIP number
Press [SAVE CLIP]

All CLIPs are protected from loop recording overwriting.
You can set protection against DELETION.

To Protect a CLIP in CP mode

Recall a CLIP you want to protect
Press [SHIFT]+[SAVE CLIP]
You will see a letter “P” at the CLIP you protected in a CLIP list.

To Unprotect a CLIP in CP mode

Recall a CLIP you want to unprotect
Press [SHIFT]+[SAVE CLIP]
You will see a letter “P” is erased at the CLIP you protected in a CLIP list.
[SHIFT]+[SAVE CLIP] is a toggled operation

4.10 SELECT a PLAYLIST (in any mode)

DMAT has 12 PLAYLISTs, from LIST00 to LIST11. LIST number is shown at bottom right part of LCD. You need to select a PLAYLIST before manipulate a PLAYLIST.

To select a PLAYLIST in any mode

Enter a PLAYLIST number with numeric Key Pad
Press [GOTO LIST]

4.11 CLEAR a PLAYLIST (in EE, PB or CP mode)

You can clear a PLAYLIST with one operation.

To clear a PLAYLIST

You must be in EE, PB or CP mode.

You can not clear a PLAYLIST in PL mode.

Select a PLAYLIST you want to clear
Press [SHIFT]+[DELETE ELEMENT]

4.12 CREATE a PLAYLIST (in any mode)

A PLAYLIST consists of CLIPs. One PLAYLIST can have up to 30 CLIPs. You can create a PLAYLIST in any mode.

To prepare creating a PLAYLIST

Select a PLAYLIST

Clear a PLAYLIST if necessary

To add a selected CLIP into the last element of the PLAYLIST

Press [ADD ELEMENT]

To insert a selected CLIP into the previous element of the PLAYLIST

Press [INS ELEMENT]

To add a specified CLIP into the last element of the PLAYLIST

Enter CLIP number with numeric Key Pad of DMAT

Press [ADD ELEMENT]

To insert a specified CLIP into the previous element of the PLAYLIST

Enter CLIP number with numeric Key Pad of DMAT

Press [INS ELEMENT]

To delete a current element of the PLAYLIST

Press [DEL ELEMENT]

4.13 PLAYBACK a PLAYLIST

To cue up to the PLAYLIST in any mode

Press [CUE LIST]

“EE” is displayed at the top left corner of LCD to show that it is PL-mode.

To play the PLAYLIST in PL mode

Press [PLAY]

4.14 EDIT a PLAYLIST (in PL mode)

You must be in PL mode to edit a PLAYLIST.

To select an ELEMENT in a PLAYLIST

Press [NEXT]

or

Press [LAST]

To delete an ELEMENT in a PLAYLIST

Press [DEL ELEMENT]

To add a selected CLIP into the last element of the PLAYLIST

Press [ADD ELEMENT]

To insert a selected CLIP into the previous element of the PLAYLIST

Press [INS ELEMENT]

To add a specified CLIP into the last element of the PLAYLIST

Enter CLIP number with numeric Key Pad of DMAT

Press [ADD ELEMENT]

To insert a specified CLIP into the previous element of the PLAYLIST

Enter CLIP number with numeric Key Pad of DMAT

Press [INS ELEMENT]

4.15 Operating Mode

DMAT has four operating modes, EE, PB, CP and PL mode. Mode is displayed at the top left corner of the LCD of DMAT. You must understand clearly what you can do in each mode and how to move to another mode. Please refer a following chart regarding mode transition.

EE mode

While watching EE video, you can do followings.

- Mark CUE
- Create a CLIP based on EE video
- Create a PLAYLIST

PB mode

You can have access to recorded material with PLAY/JOG/SHUTTLE/FF/REW/SLOW.

- Slow Replay
- Jump to CUE point
- Jump to specified Time Code
- Create a CLIP based on PB
- Create a PLAYLIST

CP mode

You can trim, manage and play a CLIP. You can create up to 400 CLIPs.

- Recall a CLIP
- Play a CLIP
- Trim a CLIP
- Name/Delete/Copy a CLIP
- Create a PLAYLIST

PL mode

Though you can create a PLAYLIST in any mode, you can edit and play a PLAYLIST in PL mode.

You can create up to 12 PLAYLIST (LIST00 to LIST11), and each PLAYLIST can have up to 30 CLIPs.

- Create a PLAYLIST
- Play a PLAYLIST
- Edit a PLAYLIST

4.16 [LAST] and [NEXT]

[LAST] and [NEXT] have multi-functions depending on mode.

In EE or PB mode

- Cue up to "LAST CUE" or "NEXT CUE".

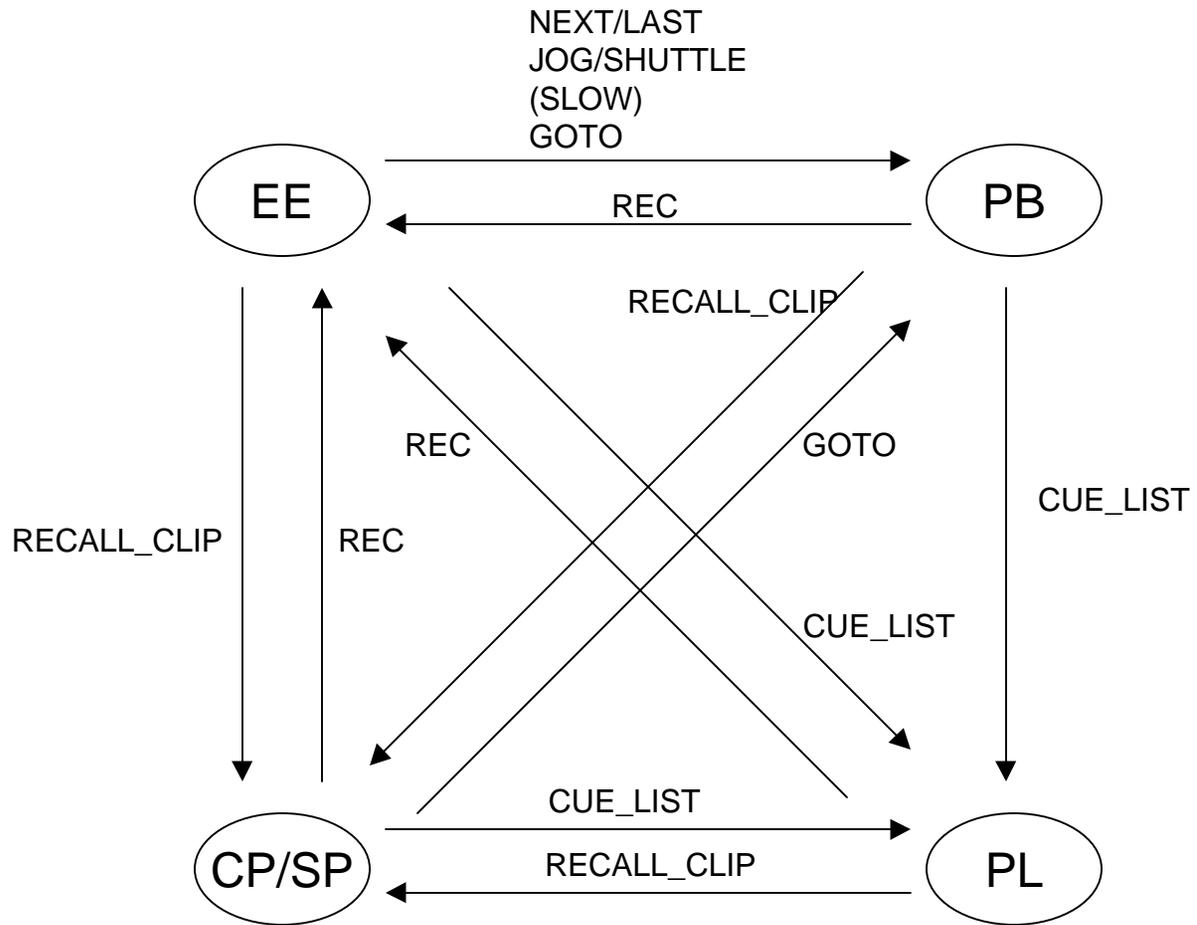
In SP/CP mode

- Recall "LAST CLIP" or "NEXT CLIP"

In PL mode

- Move to "LAST ELEMENT" or "NEXT ELEMENT" in a PLAYLIST

Mode Transition



4.17 Function Table

Current Mode	Operation	Function	Next Mode	Function Description
EE	“T-bar”	Slow	EE	Slow
	“T-bar” + [REV]	Slow Reverse	EE	Slow Reverse
	[PLAY]	Play Latest	PB	Playback Latest Incoming Feed
	“DIAL”	Jog	PB	Jog Latest Incoming Feed
	[SHUT], “DIAL”	Shuttle	PB	Shuttle Latest Incoming Feed
	[FFWD]	FFWD	PB	FFWD Latest Incoming Feed
	[RWD]	RWD	PB	RWD Latest Incoming Feed
	[MARK]	Mark Cue	EE	Mark REC TC into a next cue point
	[LAST]	Goto Current Cue	PB	Cue Up to current CUE point
	[NEXT]	Goto Current Cue	PB	Cue Up to current CUE point
	Num + [LAST]	Goto Cue	PB	Cue Up to specified CUE point
	Num + [NEXT]	Goto Cue	PB	Cue Up to specified CUE point
	Time Code + [GOTO]	Goto TC	PB	Cue Up to specified Time Code
	[IN]	Mark IN Point	EE	Mark IN POINT of a CLIP
	[OUT]	Mark OUT Point	EE	Mark OUT POINT of a CLIP
	[SAVE CLIP]	Save CLIP	EE	Save a CLIP
	Num + [SAVE CLIP]	Save CLIP	EE	Save a CLIP to specified position
	[RECALL CLIP]	Recall CLIP	CP	Recall a current CLIP
	Num + [RECALL CLIP]	Recall CLIP	CP	Recall a specified CLIP
	[SHIFT] + [IN]	Goto IN	PB	Cue Up to IN point
	[SHIFT] + [OUT]	Goto OUT	PB	Cue Up to OUT point
	[ADD ELEM]	Add Element	EE	Add current CLIP to a PLAYLIST
	Num + [ADD ELEM]	Add Element	EE	Add specified CLIP to a PLAYLIST
	[INS ELEM]	Insert Element	EE	Insert current CLIP to a PLAYLIST
	Num + [INS ELEM]	Insert Element	EE	Insert specified CLIP to a PLAYLIST
	[DEL ELEM]	Delete Element	EE	Delete current element
	[SHIFT] + [DEL ELEM]	Clear PLAYLIST	EE	Clear current PLAYLIST
	Num + [GOTO LIST]	Goto PLAYLIST	EE	Go to specified PLAYLIST
	[SHIFT] + [GOTO LIST]	Goto next Playlist	EE	Go to next PLAYLIST
	[CUE LIST]	Cue Up Playlist	PL	Cue Up to Top of the current PLAYLIST

Current Mode	Operation	Function	Next Mode	Function Description
	[REC]	E to E	EE	Go to EE mode
	[PLAY]	Play	PB	Play Incoming Feed
	“T-bar”	Slow	PB	Slow Incoming Feed
	“T-bar” + [REV]	Slow Reverse	PB	Slow Reverse Incoming Feed
	“DIAL”	Jog	PB	Jog Incoming Feed
	[SHUT] + “DIAL”	Shuttle	PB	Shuttle Incoming Feed
	[FFWD]	FFWD	PB	FFWD Incoming Feed
	[SHIFT] + [FFWD]	Play latest	PB	Playback latest Incoming Feed
	[RWD]	RWD	PB	RWD Incoming Feed
	[MARK]	Mark Cue	PB	Mark REC TC into a next cue point
	[LAST]	Goto Last Cue	PB	Cue Up to last CUE point. Cue Up to current CUE point just after [MARK]
	[NEXT]	Goto Next Cue	PB	Cue Up to next CUE point. Cue Up to current CUE point just after [MARK]
	[SHIFT] + [LAST]	Goto Current Cue	PB	Cue Up to current CUE point
	[SHIFT] + [NEXT]	Goto Current Cue	PB	Cue Up to current CUE point
	Num + [LAST]	Goto Cue	PB	Cue Up to specified CUE point
	Num + [NEXT]	Goto Cue	PB	Cue Up to specified CUE point
	Time Code + [GOTO]	Goto TC	PB	Cue Up to specified Time Code
	[IN]	Mark IN Point	PB	Mark IN POINT of a CLIP based on PB TC
	[OUT]	Mark OUT Point	PB	Mark OUT POINT of a CLIP based on PB TC
	[SAVE CLIP]	Save CLIP	PB	Save a CLIP
	Num +[SAVE CLIP]	Save CLIP	PB	Save a CLIP to specified position
	[ALT] + [IN]	Mark IN Point	PB	Mark IN POINT of a CLIP based on REC TC

Current Mode	Operation	Function	Next Mode	Function Description
CP	[REC]	E to E	EE	Go to EE mode
	[PLAY]	Play	CP	Play CLIP
	“T-bar”	Slow	CP	Slow CLIP
	“T-bar” + [REV]	Slow Reverse	CP	Slow Reverse CLIP
	[SHIFT] + [PLAY]	Play	CP	Playback CLIP
	“DIAL”	Jog	CP	Jog CLIP
	[SHUT] + “DIAL”	Shuttle	CP	Shuttle CLIP
	[FFWD]	FFWD	CP	FFWD CLIP
	[RWD]	RWD	CP	RWD CLIP
	[MARK]	Mark Cue	CP	Mark REC TC into a next cue point
	[LAST]	Goto Last CLIP	CP	Cue Up to last CLIP
	[NEXT]	Goto Next CLIP	CP	Cue Up to next CLIP
	Time Code + [GOTO]	Goto TC	PB	Cue Up to specified Time Code
	[NAME CLIP]	Name CLIP	CP	Name a CLIP
	[SHIFT]+[SAVE CLIP]	Protect CLIP	CP	Protect a CLIP, ON/OFF toggled
	[DEL] + [SAVE CLIP]	Delete CLIP	CP	Delete a CLIP
	[DEL] + [IN]	Delete IN	CP	Delete IN point
	[DEL] + [OUT]	Delete OUT	CP	Delete OUT point
	[IN]	Mark IN	CP	Mark IN point based on PB TC
	[OUT]	Mark Out	CP	Mark OUT point based on PB TC
	[SAVE CLIP]	Save CLIP	CP	Save a CLIP
	Num + [SAVE CLIP]	Copy CLIP	CP	Save a CLIP to specified position
	[ALT] + [IN]	Mark IN Point	CP	Mark IN POINT of a CLIP based on REC TC
	[ALT] + [OUT]	Mark OUT Point	CP	Mark OUT POINT of a CLIP based on REC TC
	[ALT] + [SAVE CLIP]	Save CLIP	CP	Save a CLIP created by [ALT][IN] and [ALT][OUT]
	[RECALL CLIP]	Recall CLIP	CP	Recall a current CLIP
	Num + [RECALL CLIP]	Recall CLIP	CP	Recall a specified CLIP
	[SHIFT] + [IN]	Goto IN	CP	Cue Up to IN point
	[SHIFT] + [OUT]	Goto OUT	CP	Cue Up to OUT point
	[ADD ELEM]	Add Element	CP	Add current CLIP to a PLAYLIST
	Num + [ADD ELEM]	Add Element	CP	Add specified CLIP to a PLAYLIST
	[INS ELEM]	Insert Element	CP	Insert current CLIP to a PLAYLIST
	Num + [INS ELEM]	Insert Element	CP	Insert specified CLIP to a PLAYLIST
	[DEL ELEM]	Delete Element	CP	Delete current element
	[SHIFT] + [DEL ELEM]	Clear PLAYLIST	CP	Clear current PLAYLIST
	Num + [GOTO LIST]	Goto PLAYLIST	CP	Go to specified PLAYLIST
	[SHIFT] + [GOTO LIST]	Goto next Playlist	CP	Go to next PLAYLIST
	[CUE LIST]	Cue Up Playlist	PL	Cue Up to Top of the current PLAYLIST

Current Mode	Operation	Function	Next Mode	Function Description
PL	[REC]	E to E	EE	Go to EE mode
	[PLAY]	Play PLAYLIST	PL	Play PLAYLIST
	“T-bar”	Slow PLAYLIST	PL	Slow PLAYLIST
	“T-bar” + [REV]	Slow PLAYLIST	PL	Slow Reverse PLAYLIST
	“DIAL”	Jog	PL	Jog PLAYLIST
	[SHUT] + “DIAL”	Shuttle	PL	Shuttle PLAYLIST
	[FFWD]	FFWD	PL	FFWD PLAYLIST
	[RWD]	RWD	PL	RWD PLAYLIST
	[MARK]	Mark Cue	PL	Mark REC TC into a next cue point
	[LAST]	Goto last Element	PL	Cue Up to last Element in a PLAYLIST
	[NEXT]	Goto next Element	PL	Cue Up to next Element in a PLAYLIST
	[ALT] + [IN]	Mark IN Point	PL	Mark IN POINT of a CLIP
	[ALT] + [OUT]	Mark OUT Point	PL	Mark OUT POINT of a CLIP
	[ALT] + [SAVE CLIP]	Save CLIP	PL	Save a CLIP
	[RECALL CLIP]	Recall CLIP	CP	Recall a current CLIP
	Num +[RECALL CLIP]	Recall CLIP	CP	Recall a specified CLIP
	[ADD ELEM]	Add Element	PL	Add current CLIP to a PLAYLIST
	Num + [ADD ELEM]	Add Element	PL	Add specified CLIP to a PLAYLIST
	[INS ELEM]	Insert Element	PL	Insert current CLIP to a PLAYLIST
	Num + [INS ELEM]	Insert Element	PL	Insert specified CLIP to a PLAYLIST
	[DEL ELEM]	Delete Element	PL	Delete current element
	Num + [GOTO LIST]	Goto PLAYLIST	PL	Go to specified PLAYLIST
	[SHIFT]+[GOTO LIST]	Goto next Playlist	PL	Go to next PLAYLIST
	[CUE LIST]	Cue Up Playlist	PL	Cue Up to Top of the current PLAYLIST

5. Melting and Tear Down

5.1 Stop Recording with DMAT

To stop recording

With DMAT

Press [MENU]

Press [RECORD SETUP]

Press [STOP RECORD]

Press [STOP R1]

Press [ESC] twice to come back to main screen

5.2 Melting materials to Tape

There is a useful function to help melting CLIPs to tape.

To create a MELT file

With DMAT

Create a PLAYLIST with CLIPs you want to melt

You must fill all 30 CLIPs before go to next PLAYLIST

You need to use consecutive PLAYLIST

Select the first PLAYLIST you want to melt

Press [MELT]

One big file that includes all CLIPs with HANDLE is created on MAV555 with the name "MELT".

To play a MELT file

With MAV555 Control Panel

Load a file "MELT" on P2 with control panel

Play it with VAR 33% speed to dump to a tape

5.3 Power Off MAV555 and DMAT

To Power OFF MAV555

Power switch of MAV555 is located behind a control panel.

To Power OFF DMAT

Use AC cable to turn on/off DMAT.

DMAT does not have a power switch.

Do not hot plug/unplug D-sub connector of power at the rear panel of DMAT.

There is no special procedure for MAV555 and DMAT to power on and off.

6. Hardware Configuration and Firmware of MAV555

6.1 Hardware Configuration

Model Name	#	Description
MAV555	1	MAV555 main unit
BKMA505	1	Control Panel
BKMA520SS	1	Input processing board
BKMA521SS	(1)	LDK23 interface
BKMA530	1	Output processing board
BKMA560	(1)	Effect board
BKMA511	1	AD
BKMA512	1 (2)	DA
BKMA570	1	Analog Audio Break Out Box

MAV555

You can choose from MAV555/18 or MAV555/36. The difference is just recording time. MAV555/18 can be upgraded to MAV555/36.

Recording Time	30Mbps	40Mbps	50Mbps
MAV555/18	3H13M	2H26M	1H53M
MAV555/36	6H26M	4H52M	3H46M

BKMA521SS

When you utilize Philips LDK23 camera, you have to add BKMA521SS. This is an additional interface board. When you utilize Sony BVP9500WS camera, you have to remove BKMA521SS.

BKMA560

BKMA560 is a 2D video effect board. You can add an effect transition between CLIPs in a PLAYLIST, though DMAT has not supported it yet in super motion configuration.

BKMA512

BKMA512 is DA board. One board is necessary for super motion configuration. If you are going to utilize this system not only for super motion, but also 2in2out configuration, you need to add another BKMA512.

6.2 Firmware Configuration

Here is a latest set of firmware, Ver2.00SSbeta4

CPM: Ver 2.00
 CPS: Ver 2.00
 DM: Ver B85SSb0
 EM: Ver 2.00
 FM: Ver 2.01
 TM: Ver 2.00

When you need to check the exact firmware version of your MAV555, please refer Appendix-1, because BKMA505 (Control Panel) shows software version of BKMA505 only.

7. Hardware Configuration and Firmware of DMAT

7.1 Hardware

"DMAT-MAV-T" is a product name. "DMAT" stands for "Don't Miss A Thing". "T" shows T-bar (for slow motion) model. DMAT is a standalone controller. Any other option is not necessary. But please prepare a PC keyboard to name CLIPs, though you can name numeric name without a keyboard. A keyboard is not included in DMAT.

7.2 Firmware

You can check version number of DMAT when you press [MENU] on DMAT. Please press [ESC] to escape from menu screen.

Latest version is **Ver 4.0, 020101**. You can get a manual at DNF Home page⁵.

When you change a ROM of DMAT, you need to execute "CLEAR MEMORY" after changing a ROM.

Press [ESC]

Press [SET&CLEAR]

Press [CLEAR MEMORY]

Press [OK]

Press [OK]

⁵ <http://www.dnfcontrols.com/>

8. Wire Connection

8.1 RS422

DMAT	MAV555
VTR1	P2
VTR4	R1

8.2 Video

Three video Inputs are connected with CCU directly via SDI. SDI output does not have time code superimposition capability. B port of Analog composite output has time code superimposition capability.

8.3 Audio

You can use AES/EBU or Analog as audio input. You can use AES/EBU, SDI embedded or Analog as audio output. Please use BKMA570 (Analog Audio Expansion box) for Analog Audio IO.

8.4 Monitor Output of Video and Audio

There are one SDI video output, one Analog Composite video output and one stereo pair of Analog Audio output for monitoring. All these outputs follow port selection on a control panel or meter panel.

Both SDI and Analog Composite Monitor Output have time code superimposition capability. To turn on the character on the monitor output, there is a switch behind a control panel. If you want house time code superimposed on EtoE video, you need to use monitor output as R1 monitor.

Monitor Output is also used to setup MENU items.

8.5 Time Code Input

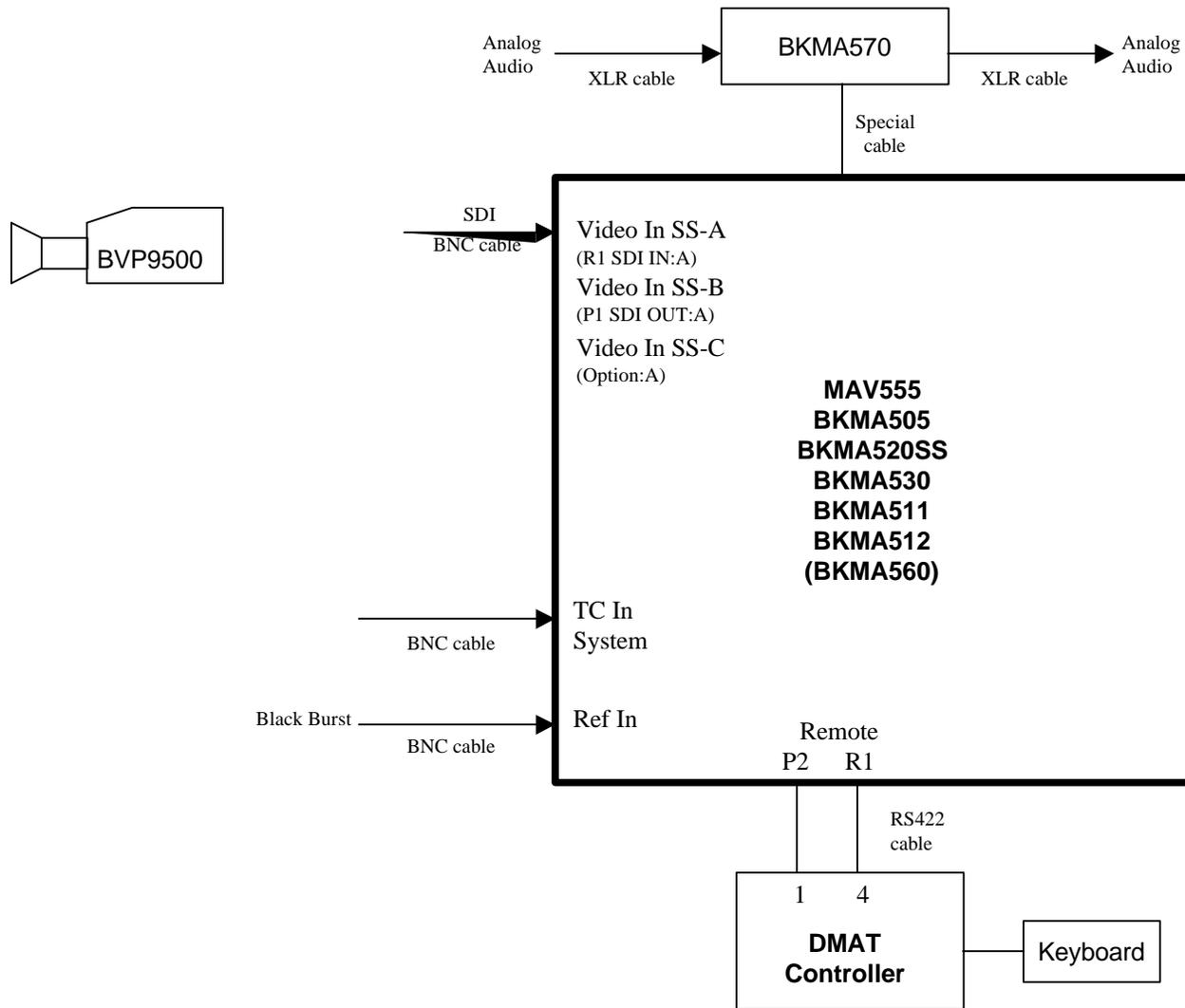
House Time Code should be fed into SYSTEM-TC input on a rear panel of MAV555. **A connector for time code is BNC not XLR.**

When you select MENU670 and 671 to SYSTEM TC, the TC fed into SYSTEM-TC is used for both R1 and R2 LTC.

8.6 Wiring Chart

Please refer wiring chart.

Sony BVP9500WS and Philips LDK23 super motion camera can be interfaced. When you interface LDK23, BKMA521SS is necessary. When you interface BVP9500WS, BKMA521SS must be removed.



Wiring for Super Motion System

9. Trouble Shooting

Manual

- I can not read a PDF of MAV555 or BKMA505 operation manual
Download Adobe Acrobat Reader ver4.0 and Asian Font (Japanese) from www.adobe.com, then install them on your PC.

General

- EtoE does not work correctly.

Check if MENU109 of MAV555 is “ON”.

- Playback of PLAYLIST does not work correctly.

Check if MENU109 of MAV555 is “ON”.

- Port Select Switch of both R1 and P1 is ON on the control panel and meter panel of MAV555.

Check if MENU019 of MAV555 is “PANEL”.

- Recording has stopped automatically.

Delete a material on R1 and R2 port with control panel, then start recording with DMAT

When remaining time becomes zero, MAV555 stops recording. You need to create remaining time by deleting a material.

- Something is wrong after switching Port Select Button.

Reset DMAT.

Switching Port Select Button affects internal routing and this makes mismatch of DMAT internal information. Current version of DMAT can not recover from this situation. So reset of DMAT is necessary.

- DMAT does not work correctly after loading another material on player port with control panel.

“RESET CLIPS” on DMAT

When you press [MENU] on DMAT, you can see a material name on each port. Respective port requires same clip. When other material is loaded on player port, you need to reset it by following menu of DMAT.

[MENU] / [SET&CLEAR] / [RESET CLIPS]

SSM

- I can not play over 1/3 speed.

Confirm if there is no material loaded on P3. If there is a material on P3, unload it. Then turn off DMAT and turn on DMAT.

Confirm if BKMA530 is installed and check MENU040, SLOT4,5 shows BKMA530.

- Slow picture is not smooth

Confirm if CCU is set to 90 frames/sec. Factory default of BVP9500WS is 30 frames/sec and in this setting, slow picture is not smooth.

Appendix

A1. How to connect a PC with MAV555 via Ethernet

Sometimes you need to connect a PC with MAV555 via Ethernet. Here is a procedure how to connect and confirm a TCP/IP connection based on direct connection between MAV555 and PC, and also based on default value of IP (192.168.0.1) and Subnet Mask (255.255.255.0) of MAV555. You can check and change these values at MENU: 220 and 221.

1. Confirm IP and Subnet Mask of MAV555
2. Prepare a PC that has Ethernet capability
3. Set "192.168.0.2" to IP and "255.255.255.0" to Subnet Mask on the PC, then reboot PC
4. Connect PC and MAV555 via 10Base-T **cross** cable
5. Launch DOS Window on the PC
6. Type "ping 192.168.0.1" (C/R)
7. Confirm if there is correct reply from MAV555

A2. How to check MAV555 firmware version

MAV555 consists of several CPUs and firmware version number stands for a set of firmware version of each CPU. The version number of Control Panel (BKMA505) shows only about control panel. When you need to confirm firmware version of each CPU, please process followings.

With GCDloader

1. Follow A1 and confirm TCP/IP connection
2. Launch GCDloader
3. Type IP of MAV555 into "Target Address"
4. Select Menu, Information/Target Version
5. Version Number of each CPU will be displayed in the window.
Please take a note of these numbers.
6. Select Menu, File/Exit

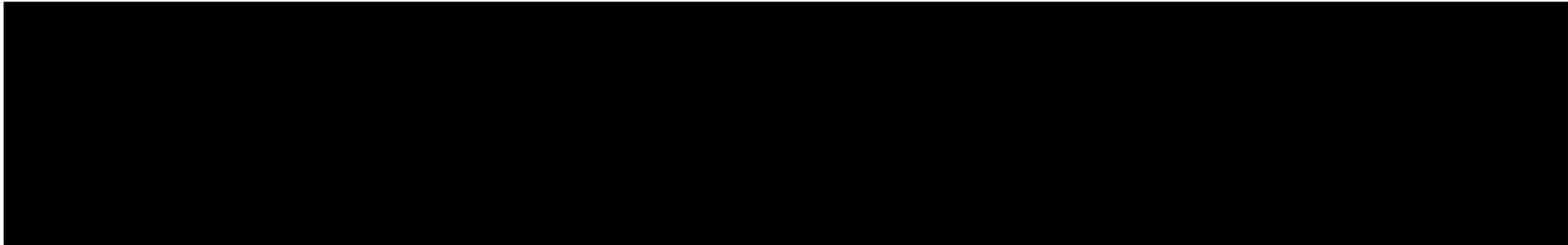
With commands on DOS Window

1. Follow A1 and confirm TCP/IP connection
2. Launch DOS Window on the PC
3. Type "ver"
4. MAV555 will reply version of FM, please take a note of this number.
5. Type "rlogin DM1"
6. Type "ver"
7. MAV555 will reply version of DM1, please take a note of this number.
8. Type "exit"
9. Type "rlogin DM2"
10. Type "ver"
11. MAV555 will reply version of DM2, please take a note of this number.
12. Type "exit"
13. Type "rlogin EM"
14. Type "ver"
15. MAV555 will reply version of EM, please take a note of this number.
16. Type "exit"

A3. Reset of DMAT

DMAT soft reset: press w (") Tj8:e85pS2r.12 0 TD -0.1018 npS2r -0.1123 E1, please take a note of this number.

A4. Reset of MAV555



PHONES

TOTAL/REMAIN FULL/E FINE

TC/UB TC DISPLAY

MENU SET

R2 00:00:34:56, P2 00:00:34:56.

VITC LOCAL

MONITOR

ANALOG

LOCAL SET UP

CH-1 CH-2 CH-3 CH-4 VIDEO PROCESS

PRESET PRESET PRESET PRESET PRESET

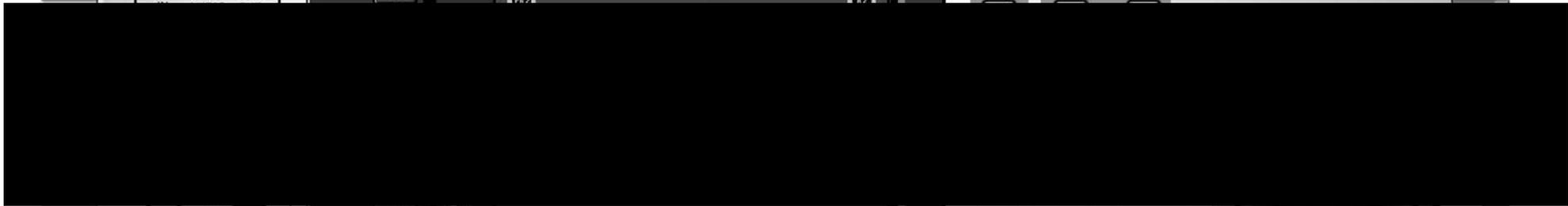
TRIM

PB.EE PB RESET HOLD TC TYPE TC/UB

L1 PR2 Shuttle x15 TCR Remain 02:15 / 50 Mbps
/All Port Mode Here. VITC 00:14:37:29*
Video Current File Name Here. NDF

1 R1 P1 SHUTTLE JOG VAR

EXT PORT SELECT



MEMORY

L10 L11

TC

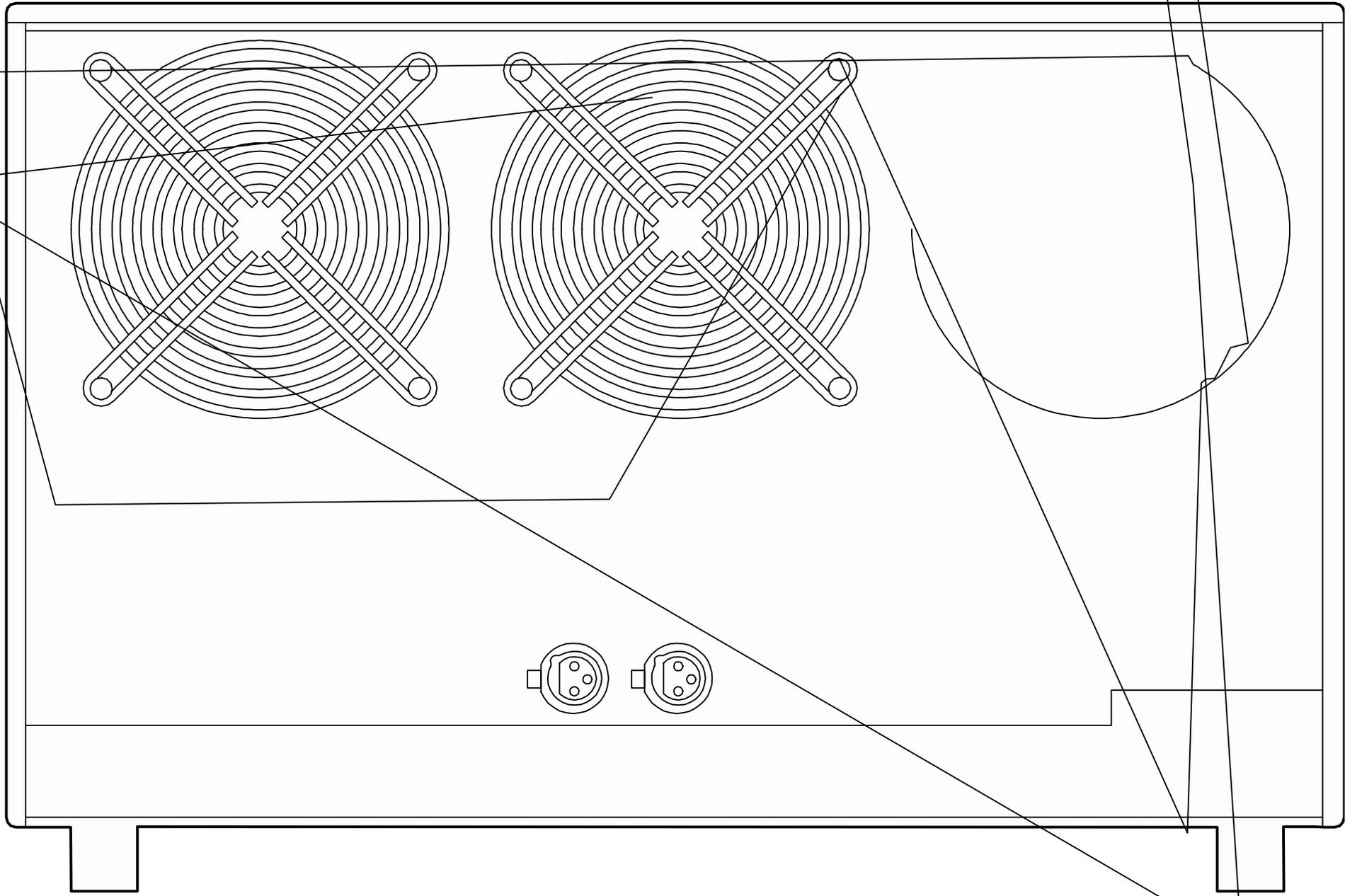
Current TC Entry Free TC Entry Edit Mode Effect Search Page Back Page Forward

MODE SHIFT B1 B2 B3 B4 B5 B6 B7

REW PLAY F FWD STOP



P
S
R
S
L
R
A
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P
X
V
O
R
I





DMAT MAV Rear View

