ZETA-THREE USER BULLETIN #21

Version 3.70/3E70 Software

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CONTENTS

1. GENERATOR

1.1   In previous software releases, if the Zeta's time code standard was set to non-drop-frame time code and the incoming time code was drop-frame, the generator would jam with respect to the system standard, generating non-drop-frame time code. This was also the case if the Zeta was set to drop-frame time code and the incoming time code was non-drop-frame. This resulted in time code re-jams occurring at the dropped frame numbers. The Zeta's time code generator will now jam with respect to the incoming time code regardless of whether the Zeta is set to drop-frame or non-drop-frame time code.

1.2   A new constant has been added, Constant 01, which allows the user to view the number of re-jams that have occurred while jamming to an incoming time code source. Refer to the updated version of Appendix G, Zeta-Three Generator Constants, for a complete listing and description.

2. MASTER and SLAVE

2.1   The Zeta-Three may provide serial control to audio and video transports that support Sony RS-422 protocol. The Zeta may control either a master or a slave via the serial control port. When controlling a master transport, only an RS-422 cable is required. **When synchronizing a slave, the appropriate time code cable is also required.**

Connect an RS-422 cable to the Zeta's 9-pin CONTROL PORT and the transport's 9-pin serial control connector. Most transports require that the 9-pin serial "remote" be enabled for operation, some require that the remote port be configured for it's intended use. Refer to the transport's user manual for details on the 9-pin serial control port and its operation. If the transport is listed in the Zeta's library, refer to Appendix J, Zeta-Three Serial Control Transport Selection, for transport set-up and cable connection.

Select the master or slave transport to be controlled from the Zeta's transport library.   A number of transports have been included in the constant library, others will be supported as soon as correct Constant values have been established. If the transport to be controlled is not listed, select . SONY BVU-950 SER'L. Constants may have to be optimized for a particular transport or application. Refer to Appendix E, Zeta Three Slave Transport Constants, for a brief description of transport constants.

When controlling a transport via the serial control port, the Zeta and the controlled transport(s) **must** be resolved to video under the following conditions:

1) The master transport is serially controlled and serial time code is used.

2) The slave transport is serially controlled.

To resolve the Zeta, feed the studio video reference signal to one of the Zeta's VIDEO IN jacks. This input is not terminated, so if the reference is not "looped through" then a 75ohm terminator should be plugged into the Zeta's other VIDEO IN jack. The reference must also be fed to the serially controlled transport. The Zeta System resolve menu should be set as follows:

```
Z06 RESOLVE=VIDEO
```

The serial control port in the Zeta must be configured for either master or slave serial control. Assignment of the control port is made from the Zeta System menu:

```
Z11 CONTROL PORT=OFF
                  MASTER (UNASSIGNED)
                  SLAVE' (UNASSIGNED)
```

When transport selection has been made for either master or slave serial control, (UNASSIGNED) is replaced by SONY PROTOCOL in the display.

Activity on the serial receive line is tallied by the presence of an asterisk in the menu:

```
Z11*CONTROL PORT ->
```

Two new constants have been added which select the editor mode and the tracks to be recorded on when a transport is under serial control. Constant A0 EDIT MODE/VID performs edit mode selection and video selection for editing. Constant A1 AUDIO TRACKS performs analog and digital audio track selection. Refer to Appendix E for a more complete description of edit mode selection and track selection.

2.2   Several new transports have been added to the Zeta's library:

```
AMPEX VPR-2B (Special)
AMPEX VPR-80 (Special)
FOSTEX D-20 DAT SER'L
JVC CR-850 SER'L
LYREC 'FRIDA'
SONY BVW-60/65/70/75 SP SER'L
SONY BVU-950 SER'L
SONY VO-9800/9850 SER'L
SONY PCM-7030/7050 DAT
SONY PCM-7030/7050 DAT SER'L
```

2.3   The time code display area of both master and slave readers will now show a drop-/non-drop-frame time code mismatch between the incoming time code and the Zeta's time code standard.

When the Zeta's time code standard is set to non-drop-frame time code and the incoming time code is drop-frame, the Zeta will indicate a mismatch by displaying a flashing '*' and 'DF' in the subframes position of the time code display area, as shown below:

S_TC 01 00 03 18*DF

When the Zeta's time code standard is set to drop-frame time code and the incoming time code is non-drop-frame, the Zeta will indicate a mismatch by displaying a flashing "*" in the subframes position of the time code display area, as shown below:

s_TC 01 00 00 00* ·

2.4   Both master and slave time code readers have been enhanced for improved reading of jittery time code. A time code reader bit length adjustment clamp has been added which dampens the allowable amount of change in the bit length measurement. Refer to the description of Constant 33 LSD in Appendix E for adjustment details.

3.   MIDI

3.1   Due to the addition of a third EPROM, the maximum number of Tempo Map Banks has been reduced to three.

4.   ZETA SYSTEM

4.1   The current version of Neve Flying Faders, version 1.2, supports Adams-Smith's System 2600 via the Adams-Smith protocol. The Zeta-Three now supports Neve's implementation of the Adams-Smith protocol developed for the System 2600.

To enable the Neve Flying Faders to Zeta interface, the computer port must first be configured for RS-232 operation. Refer to Chapter 13 of the Zeta manual, Section 13.1.8 "Hardware Considerations", for the hardware setup of the computer port.

After the computer port has been configured, menu Z08 must be set as follows:

```
Z08 COMPUTER PORT ->
                       .5 NEVE FLYINGFADERS
```

By setting the computer port for Neve Flying Faders, the following is set:

```
G03 TC COPY=ZETATIME
Z09 RS-232 BAUD ->
                       .7 9600
Z10 RS-232 FORMAT->
                       .7 8DATA NONE 1STP
Z20 ZETA TC LINK=ON
```

Connect an RS-232 cable between the Neve and the Zeta's 9-pin Computer Port connector. Initiate transport control at the Neve.

The left-most-enabled device is the device that is controlled by the Neve Flying Faders, i.e. if the master is enabled, commands sent by the Neve will be issued to the master transport.

Time code sent to the Neve is calculated with respect to the setting of:

                  Z07 ZETATIME=MASTER/SLAVE

For instance, if ZETATIME=SLAVE and the master is the left-most-enabled device, time code
received by the Neve is compensated master time code. That is, master time code plus
slave offset. If ZETATIME=MASTER and the slave is the left-most-enabled device, time code
received is slave time code minus slave offset.

4.2   A new front panel lockout mode is available for users who wish to protect their Zeta-
        Three from unwanted changes. To lockout the front panel, enter the diagnostics menu,
        dial up item .08 MENU LOCK/UNLOCK and hit the capture key. The front panel will display:

                  ----- LOCK OK ------

To unlock the front panel, return to diagnostics menu item .08 MENU LOCK/UNLOCK and hit
the capture key. The front panel will display:

                  ---- UNLOCK OK -----

Displays in which both Cursor and Capture keys inhibited are listed below:

        G01   PRESET
        G02   COPY MODE=JAM/XFER
        G03   TC COPY=TC/UB/ZETATIME
        G04   UB COPY=UB/TC/OFF
        G05   CONSTANTS

        M02   MASTER=READER/GENERATOR
        M03   MASTER OUTPUT=TRANSPORT/OFF/AUX3-10
        M07   CONSTANTS

        S08   CONSTANTS

        D17   MIDI CONSTS

        E13   EVENT CONSTS

        Z02   AUTO EDIT=OFF/ON/ON+CUE
        Z03   PREROLL
        Z05   FRAMES=30.00/24/25/29.97/29.97DF
        Z06   RESOLVE=OFF/VIDEO/MAINS/AUX IN
        Z07   ZETATIME=MASTER/SLAVE
        Z12   SYS ADDR=
        Z13   XOUT TIP=AUX 1/TIMEBASE/OFF/SYS PRK
        Z14   XOUT RING=AUX 2/OFF/SYS PRK/REC TLY
        Z15   XIN=OFF/RECORD HOLD/REC'D TOGGLE/ALL
        ENABLE/STOP/CONT/SYS PRK IN
        Z16   LOCAL CHASE=ON/OFF
        Z17   AUTO REC'D=OFF/SLAVE
        Z18   RMT REC'D=SYSTEM/SLAVE
        Z19   RMT Z_ECHO=OFF/ON
        Z20   ZETA TC LINK=OFF/ON

```
Z21     SENSE=OFF/MIDI_IN/SLAVE/SLV+MID_IN/MASTER/MASTER+SLAVE
```

Displays which may be viewed but not modified (Captured) are listed below:

```
M05     MASTER TRANSPORTS SELECT
M06     MASTER TRANSPORT SAVE

S06     SLAVE TRANSPORTS SELECT
S07     SLAVE TRANSPORT SAVE
S09     EDITORS/VTR SELECT (Zeta-Three^em Only)

Z08     COMPUTER PORT ASSIGNMENT
Z09     RS-232 BAUD SELECT
Z10     RS-232 FORMAT SELECT
Z11     CONTROL PORT ASSIGNMENT
Z22     SENSE OUTPUT SELECT
```

4.3   In previous software releases, when using multiple Zeta-Three's and it becomes necessary to perform a power-up type system reset, the individual system addresses of the Zetas were also reset. This resulted in the user having to set the system addresses of each Zeta one at a time. If possible, the Zeta-Three will now preserve the system address through a power-up type reset. Before performing a power-up type reset, the Zeta will perform a test on non-volatile memory, if the test passes, the system address is preserved.

4.4   Zeta-Three constants may now be cleared quickly and easily. While displaying a constant, press the SHIFT and CAPTURE keys to clear it.

5.   SERIAL COMMANDS

5.1   New transports have been assigned identification numbers and added to the transport list. The following is the list of transports currently supported by version 3.70/3E70 software.

User-Area Idents . .
000 thru 009

Transport Ident's . .

```
000     AEG M-15A (38 cm/s)
001     AEG M-15A (76 cm/s)
002     AEG M-20
003     AKAI MG-1212
004     AKAI MG-1214.
005     AKAI MG-14D
006     AMPEX ATR-100/104
007     AMPEX ATR-116/124
008     AMPEX MM-1200
009     AMPEX VPR-2/80
```

009	AMPEX VPR-2/80
010	AMPEX VPR-6
011	AMPEX VPR-6 (Master only)
012	FOSTEX B16 (DC)
013	FOSTEX B16D (FM)
014	same as 013
015	FOSTEX 20,80 (DC)
016	FOSTEX E-Series
017	JVC CR-5550/6650
018	JVC BR-8600U
019	JVC CR-850
020	not used
021	JVC BR-7700
022	not used
023	not used
024	JVC CR-8250
025	not used
026	JVC BR-6400U
027	not used
028	MCI/SONY JH-16/24/114
029	MCI/SONY JH-110 A/B/C
030	MITSUBISHI X-80/X-80A
031	MITSUBISHI X-800
032	MITSUBISHI X-850
033	MITSUBISHI X-86
034	MITSUBISHI X-400
035	MITSUBISHI X-850 'D'
036	MITSUBISHI X-86 'D'
037	MITSUBISHI X-400 'D'
038	NAGRA T ("TAERP")
039	OTARI MTR-10,12
040	OTARI MTR-10II,12II
041	OTARI MTR-90I
042	OTARI MTR-90II
043	OTARI 5050 (34 pin)
044	OTARI 5050 (16 pin)
045	OTARI MX-7800
046	OTARI DTR-900
047	OTARI MTR-20
048	OTARI MX-70
049	OTARI MX-80
050	OTARI DTR-900 'D'
051	PANASONIC AG-6300 (Zeta cable 024)
052	PANASONIC NV-8500
053	PANASONIC AU-650
054	SONY VO-2850 (Master)
055	SONY VO-5850
056	SONY BVU-800/820/850
057	SONY BVW-10/40
058	SONY PCM-3324 (44.1KHz)
059	SONY APR-5000/5002/5003
060	SONY VO-5600
061	SONY VO-5600 (Search w/Pict)
062	SONY VO-5630 - same as 060

063	SONY VO-5630 (SwP) - same as 061
064	SONY VO-5800
065	SONY PCM-3202 (44.1KHz)
066	SONY SLO-325 (Master only)
067	SONY PCM-3202 (48KHz)
068	SOUNDCRAFT 760MK-III/762MK-III
069	SOUNDCRAFT SATURN/ Series 20
070	STUDER A80 (DC)
071	STUDER A80 (FM)
072	STUDER A800 MK-II
073	STUDER A800 MK-III
074	STUDER A810
075	STUDER B67
076	STUDER A80 2" (DC)
077	STUDER A80 2" (FM)
078	STUDER A820
079	TASCAM 40/50 Series
080	TASCAM 85-16B
081	TASCAM 388/STUDIO 8
082	TASCAM 60 Series
083	TASCAM MS-16
084	TASCAM ATR-80
085	3M M-79
086	not used
087	not used
088	not used
089	AMPEX VPR-3
090	not used
091	not used
092	not used
093	not used
094	not used
095	not used
096	not used
097	not used
098	not used
099	not used
100	SONY PCM-3324 (48KHz)
101	SONY VP-7000/7600
102	SONY VO-5800/5850 (using ZSO)
103	not used
104	not used
105	STELLAVOX TD-9 (w/TC)
106	not used
107	not used
108	not used
109	not used
110	not used
111	AKAI DR-1200
112	LYREC TR-533
113	OTARI MTR-100A
114	OTARI MX-50
115	OTARI MX-55
116	SONY APR-24

117	SONY PCM-3402 (44.1KHz)
118	SONY PCM-3402 (48KHz)
119	SONY VP-9000/VO-9600
120	SONY VO-9800
121	SONY VO-9850
122	not used
123	STUDER A807
124	STUDER A812
125	STUDER A820 2"
126	STUDER C270
127	TASCAM MSR-16, MSR-24, TSR-8
128	TASCAM 60-16
129	FOSTEX D-20 DAT
130	JVC BR-S810U/S610U
131	PANASONIC AG-7500/7300/6500/6300
132	SONY BVU-950 (PARALLEL, MAST ONLY)
133	STUDER C278
134	FOSTEX D-20 DAT 'D'
135	JVC KR-M800U
136	not used
137	JVC CR-850 (SERIAL)
138	not used
139	not used
140	not used
141	not used
142	not used
143	SONY BVU-950 (SERIAL)
144	SONY BVW SP (SERIAL)
145	not used
146	not used
147	SONY VO-9800/50 (SERIAL)
148	not used
149	not used
150	FOSTEX R8
151	STELLAVOX TD-9 PERFO (w/TC)
152	not used
153	STUDER D-820 (44.1KHz)
154	STUDER D-820 (48KHz)
155	JVC DS-DT900 (DAT)
156	PANASONIC AU-660
157	not used
158	not used
159	not used
160	not used
161	not used
162	not used
163	not used
164	SONY BVH-2000 (Master only)
165	TASCAM BR-20T
166	not used
167	not used
168	SONY DVR-18 (Master only)
169	AMPEX VPR-2B (Special)
170	LYREC 'FRIDA'

171	SONY PCM-7030/50 DAT
172	SONY PCM-7030/50 DAT 'D'
173	SONY PCM-7030/50 DAT (SERIAL)
174	not used
175	AMPEX VPR-80 (Special)
176	not used
177	not used
178	not used
179	FOSTEX D-20 DAT (SERIAL)

6.   EMULATION

6.1   The Zeta-Three^{em} has undergone major software changes. Most importantly, the ability to interface **Sony editors**, and some editors that support Sony protocol, with **Ampex VPR-2Bs.**

6.2   The following Editor (DAW)/VTR combinations have been added to the Zeta's list:
```
CMX OMNI 1000/AMPEX VPR-3
FAIRLIGHT/SONY BVU-800
```

6.3   The Zeta-Three^{em} may be set to execute edits on Field 2 or the field requested by the editor. Refer to the description of Constant E3.MSD in the updated version of Appendix E for complete details.

6.4   Enhancements have been made to the track select capability of the Zeta-Three^{em}.

6.5   Changes have been made to transport constants that pertain to either Ampex or Sony emulation. Please refer to the updated version of Appendix E, Zeta-Three Slave Transport Constants, for a complete listing of emulation constants.