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**Opus-Two Short Menu Description**

When console turned on a welcome message appears on the screen for a few seconds, then switches to a 'top level' screen showing memory level, current crescendo setting, transposer setting. Normally the display will stay in this screen unless other specific diagnostic & setup functions need to be performed.

There can be 6 engraved buttons on the manuals that are for operation of the display and control system { Transp , Track, Rec , Play }and two on the right keycheek of the choir (Acc) manual { Up / Dn }, or located elsewhere on piston keyslips. In addition, SET and Cancel on the Choir (ACC) manual have some display control functions as well as being the normal method to set combination action pistons and general cancel.

If the display does not have engraved buttons, the 6 switches under the display have the following meanings, L to R
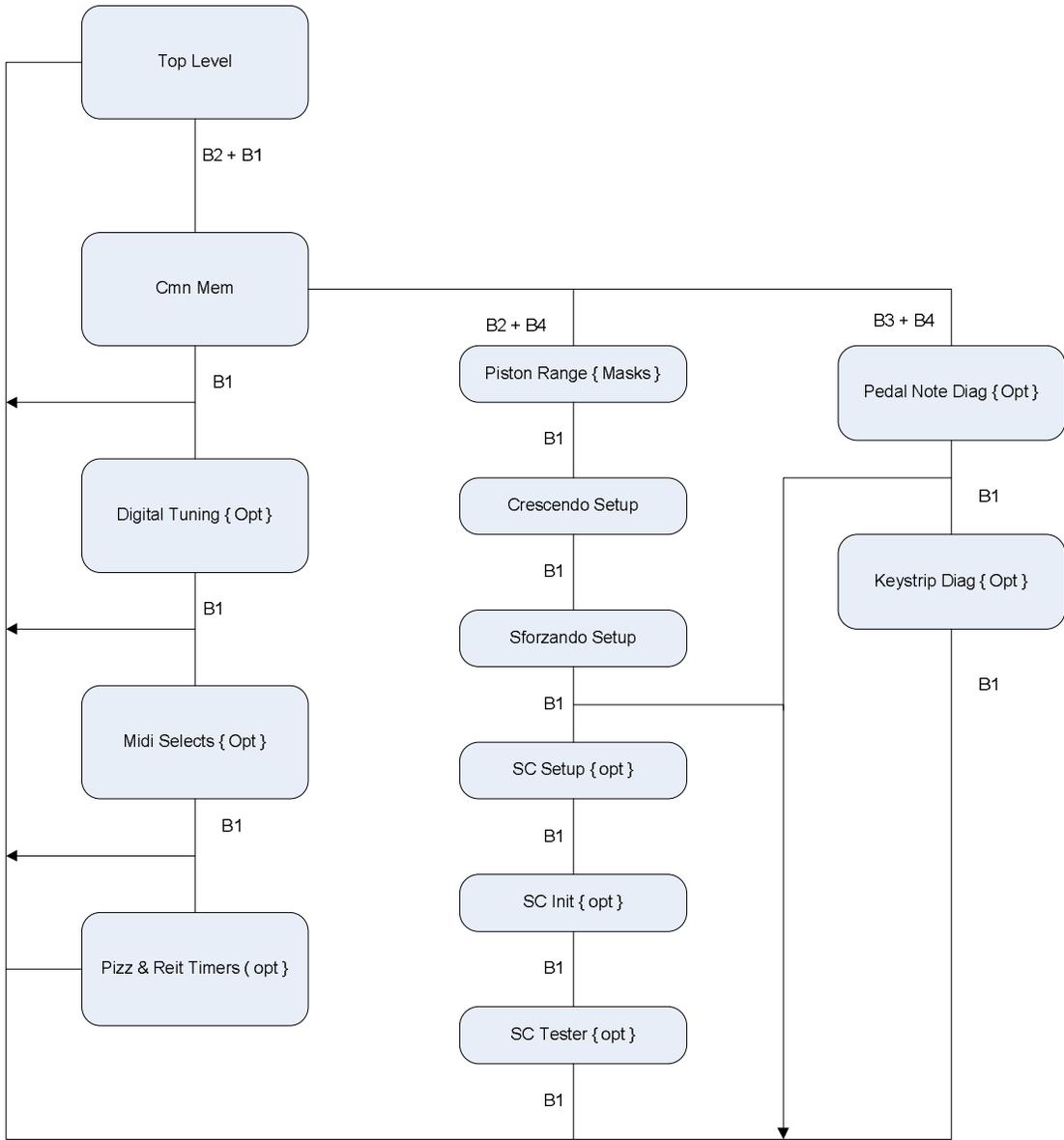
When at the 'top level' the 6 buttons have the following meaning:
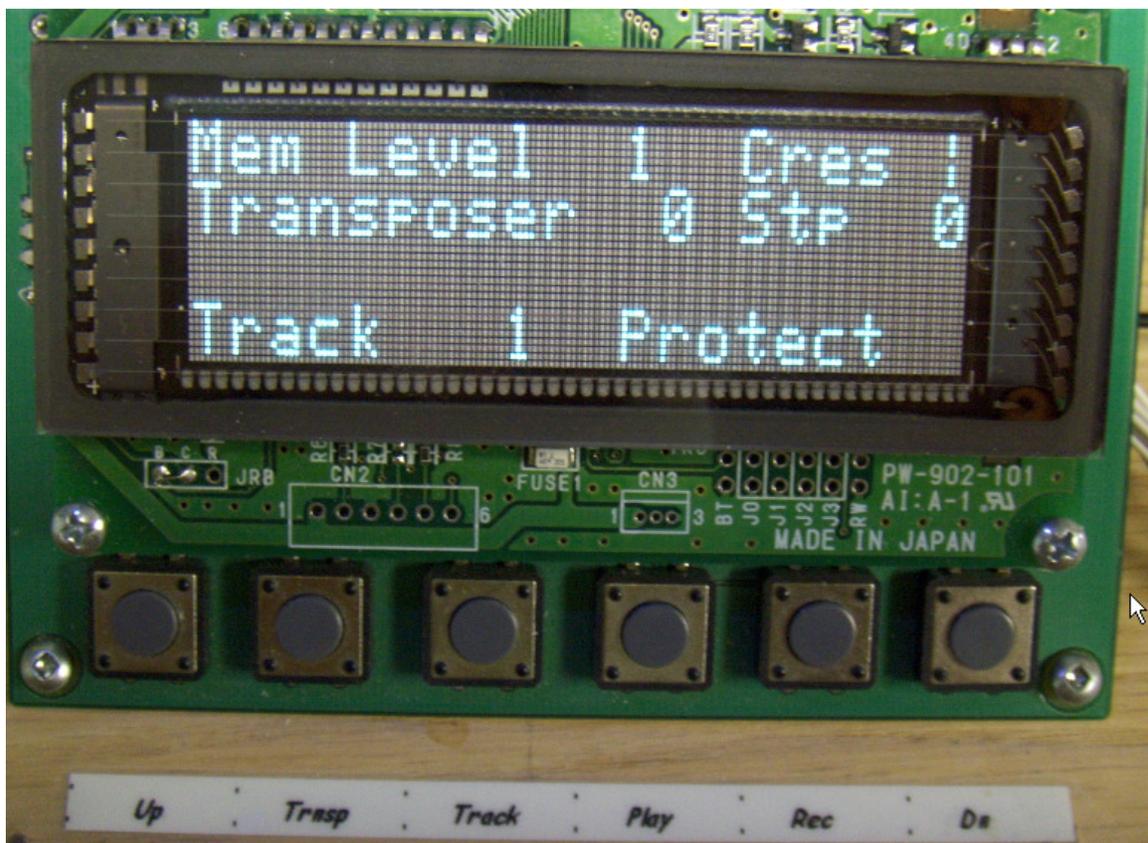
And if at some other level B1 to B4 will be defined by the bottom line of the display

Up   B1   B2   B3   B4   Dn

Opus Two Display Menu Overview

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┌──────────────┐
│  Top Level   │
└──────────────┘
        │ B2 + B1
        │
┌──────────────┐                    ┌────────────────────────┐                    ┌──────────────────────────┐
│   Cmn Mem    │────────────────────│ Piston Range { Masks }  │                    │  Pedal Note Diag { Opt } │
└──────────────┘      B2 + B4       └────────────────────────┘      B3 + B4        └──────────────────────────┘
        │ B1                                  │ B1                                              │ B1
┌──────────────┐                    ┌────────────────────────┐                    ┌──────────────────────────┐
│ Digital Tuning { Opt } │          │    Crescendo Setup     │                    │   Keystrip Diag { Opt }  │
└──────────────┘                    └────────────────────────┘                    └──────────────────────────┘
        │ B1                                  │ B1                                              │ B1
┌──────────────┐                    ┌────────────────────────┐
│ Midi Selects { Opt } │            │    Sforzando Setup     │
└──────────────┘                    └────────────────────────┘
        │ B1                                  │ B1
┌──────────────┐                    ┌────────────────────────┐
│ Pizz & Reit Timers ( opt ) │      │     SC Setup { opt }   │
└──────────────┘                    └────────────────────────┘
                                             │ B1
                                    ┌────────────────────────┐
                                    │      SC Init { opt }   │
                                    └────────────────────────┘
                                             │ B1
                                    ┌────────────────────────┐
                                    │     SC Tester { opt }  │
                                    └────────────────────────┘
                                             │ B1
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Top Level Display Functions

The default top level display functions are:

- Transposer adjustment { -7 to +7, 0 default }
- Memory Level Adjustment { 1 to 99 , 1 default }
- Track Select { 1 to 2000 / 4000 , 1 default }
- Record
- Playback
- Quick Set Track
- Quick Set Memory Level

In some cases these functions may be available or controlled entirely via extra dedicated buttons / pistons on the console.

Transposer:
Press Transpose button. The lamp { if present & configured } in the button comes on to indicate that it's on. UP / DN are used to change the setting. Press Trnsp again to turn off transposer. Cancel will also reset the transposer to neutral and turn of transpose option. { Other piston presses to recall a combination action will not change the transposer setting. { At the moment, transposer settings are not captured by a piston, however if you would like this feature it will be available in a future config release }. Regular Record activity will capture the transposer setting, playback will use that while playing back and the tranposer will be set to neutral when playback finished or stopped }.

Memory Level.
There are 99 { less if a smaller ctrl without expansion memory } . System always powers up to 1.
Press Up / Dn to change memory levels. If Up / Dn held, scrolling of the mem level will occur.
{ One feature that will be added is ability to press a max of 3 buttons to get to any desired memory level. On some other sites this has taken the form of press & hold Cancel, then use general pistons 1 to 10 as a keypad to enter 2 digits. As soon as cancel button released, the memory level will be set to that number. While digits being pressed, the accumulating number will be shown on the display }.

To save a combination on a piston { when a registration has been set up }, Press & hold "SET", then press the desired piston.
To recall a setting, press desired piston when at the desired memory level.

Quick Memory Level

Press & Hold "Cancel". Use general pistons 1 to 10 as a 'dial' pad to rapidly go to a new memory level. Release "Cancel" to finalize memory level selection.

Record / Playback
The record playback system has 60 { optionally 124 or 240 } tracks of up to 1/2 hr record capability each. Normally all tracks are protected until one is unprotected to make a recording.

To record or playback a track it's 1st necessary to select a track to record to. Press & hold "Track", then use the up / dn buttons to change the track number.
{ One feature that will be added is ability to press a max of 4 buttons to get to any desired track. On some other sites this has taken the form of press & hold Track, then use general pistons 1 to 10 as a keypad to enter 2 digits. As soon as Track button released, the memory level will be set to that number. While digits being pressed, the accumulating number will be shown on the display }.

To enable a track for recording, press & hold "Track", then press "Set" or "REC". The display will show the change in protected / enable status.

To record, press "REC". A record timer will apear on the screeen. Play the instrument. All console activity is captured by the recorder.
Press "Rec" to stop the recording. { Track automaticaly write protected when recording stopped }

To playback a selected track, press "Play".
During playback stops will move to indicate what is being used. If a crescendo or sforzando/tutti is used on a recording the stops will not move when those effects were active.

To pause a recording or playback, press & hold "Track", press "Play". Repeat to resume playback / recording.

Quick Track Select

Press & Hold "Track", then use general pistons 1 to 10 as a "dial' pad to select the desired tarck number. Release "track" to finalize the selection.

Digital Tuning { Opt }

This screen allows the console to over-ride the automatic temperature control for digital voice tuning { Hauptwerk &/or other midi digital voices }.

The display shows a relative offset applied for this screen session only.

This screen only appears if the option has been defined in the console configuration.

Midi Selects { Opt }

This screen allows midi voice selections to be applied to midi stop tabs. The midi stop tab will turn the voice on or off, this screen selects what voice will be attached to that midi stop.

To see or edit the setting for an individual midi stop, navigate to this screen, only turn on the midi stop that is to be edited, then press "Pick" or "record. This action then opens up another screen showing detailed parameters for a midi voice select ion.

The "track button cycles thru the various parameters than can be changed. The name of the parameter being changed is shown in the middle of the bottom line of the display. The "up" / "dn" buttons change the value of the parameter. Press "rec" to end the editing session for that midi stop.

When changes are made to the midi stop, it is possible to play the stop to hear the changes made. This is done by toggling the top off then on, while remaining in this menu. Other stops may be played at as well so that the midi stop being worked on can be adjusted to suit.

This screen only appears if the midi parameters option has been defined in the console configuration.

Pizz & Reit Timers

This display screen allows the 64 pizz & reit timers to be individually adjusted.

This screen only appears if the midi parameters option has been defined in the console configuration.

Display Control

This display screen allows the backlight & contrast to be adjusted on the new LCD display screen, only available with the later version of LCD display screen.

Other less frequently used diagnostic / setup operations.

To get to 1st setup / diagnostic screen, press & hold "Set", then additionally press "Cancel". Newer config updates also allow this to be done using "Track", then additionally press "Trnsp"

This screen shows various internal memory areas of the control system and may be used to diagnose stuck leys and other diagnostic events. Up / Dn used to change the named memory area that is shown. There are approx 80 different data blocks that might be shown. Normally one never needs to use this screen during normal console operation.

When in this menu:

1) press & hold "Set", then press "Cancel" to advance to "Pizz/Reits", then "Tuning" menu { new configs allow "Trnsp" button to advance to Pizz/Reits, then Tuning.

or

2) press & hold "Track", then press "Rec" to advance to Piston range menu

Piston Ranges
This instrument has various pistons associated with divisions as well as general ones. The combination memory system allows specific stops / couplers / drawer buttons to be associated with each piston. This is known as the piston mask or piston range setting, quite independant of the actual setting process that is used to set individual stops on a given piston / memory level combination. { The piston mask defines all the stops that are allowed to be changed by a given piston }.

To get to the Piston Range screen from the Cmn-Mem diagnostic screen, press & hold "Track" then press "Rec" once. The display will change. { Be sure to press & hold Track, then briefly press Rec. Do not do in reverse order }

Each piston can have it's own unique set of stops that it affects. This is known as the piston mask. For the selected piston, put on all the stops that you want to be affected.

Press & hold "Rec" and press selected piston(s) to save the setting.

Press & hold "Play" + selected piston to show what the mask setting is for that piston.

Cancel will turn all stops off, but does not change what is stored.

{ Regular pistons can be pressed, or pistons set while in this mode using the regular piston setting buttons } Keys can be played to hear the results.
{ While in this menu, changing memory levels is not allowed. The memory level used is the one set before getting into the advanced menu screens }.

Crescendo Setup
From "Piston Range Screen" press & hold "Set", then press "Cancel" a couple of times until screen shows "Crescendo Setup". { Also be sure that the crescendo pedal is in the off position. } { NB: When at Piston Ranging, can also press the "TRNSP" button instead of "Set+Cancel}.
This menu screen is used to set the crescendo Up/Dn used to select the crescendo step that is to be checked or set.
Currently there are 28 levels. 0 is 'off' so nothing needs to be set there. 1 is the 1st active step, 28 would be the highest.
To see what is on a given step, press "Play'. The tabs will move to show what is set for that step level.
To set a step level, set the stops as you want, then press "Rec". The setting will be saved.

Use up/dn to change step level until all have been set / checked.

"Cancel" will set all stops off but will not change any settings.

The instrument can be played while in this screen so the effects of setting crescendo steps can be heard. Use Cancel to clear stops and use the crescendo pedal to hear what effects will be.Be sure to set crescendo pedal to off position after 'testing' so as not to be confused by what is or might be on a given step level. The stops do not move during normal crescendo operation.

Sforzando Setup
From "Crescendo Screen" press & hold "Set", then press "Cancel" a couple of times until screen shows "Sforzando Setup".
This screen is used to set the various Tutti / Sforzando settings.

Use up/dn to change which one is to be changed.
"Play" shows what stops set for that Tutti / Sforzando.
"Rec" saves a stop setting for that Tutti / Sforzando.
"Cancel" will set all stops off but will not change any settings.

While in this screen, pistons can recall settings and the sforzando / tutti operated to hear the effects.

When done setting Sforzando, Press & hold "Set", then press "Cancel" repeatedly until original top level menu screen is back.

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Pedal Note Setup / Diagnostics

To get to 1st setup / diagnostic screen, press & hold "Set", then additionally press "Cancel". Newer config updates also allow this to be done using "Track", then additionally press "Trnsp"

Then press & hold "Play" then additionally press "Rec"

Refer to Opus-Two Pedal Setup.pdf for more detail on setting up pedal sensor notes.

Press "Trnsp" to advance to keystrip setup / diagnostics menu.

Keystrip Setup / Diagnostics

The keysprip setup / diagnostics option is only available if :

SC_keybd = high

Or

  SC_Keys_in (1 , Swell)
  SC_Keys_in (2 , Great)

are present in the console config file.

A separate wire connection from the C-I controller to the keystrip needs to be made. The data wire on the C-I is from JP19.3 { the 5 pin option header beside the C-I programming header }.

The connection on the keystrip is on the 4 pin programming header, pin 2 { pin 4 is towards the Piston input header on the keystrips.

Keystrip Display Screen
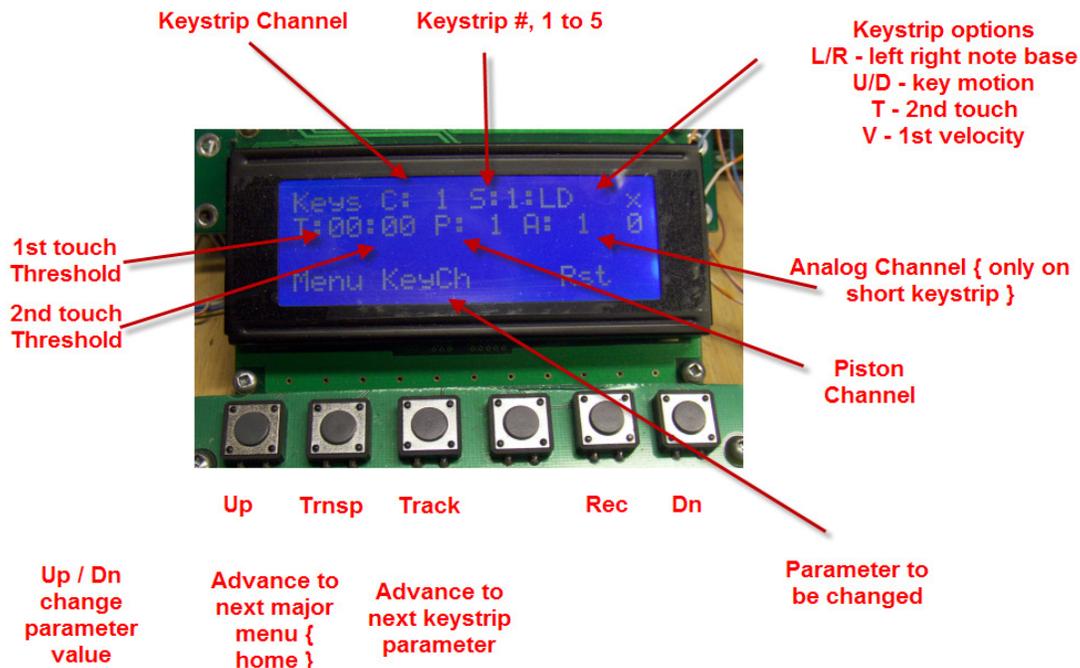
The major items of the keystrip diagnostic screen are shown above.

The display will update automatically when connected to a keystrip having a version of firmware that supports the diagnostic functions. { Opus_cfg_1320_velocty_10_6_v.hex or later }

This diagnostic system works by periodically reading the settings in the keystrip and showing them on the screen. If a given parameter is not correct, use the "track" button to select the parameter to be changed, then use the up / dn buttons to change the value of the parameter.

A brief summary of parameter settings is here:

KeyCh: the channel that keystrip sill use to send note on / off info. Typically Swell = 1, Great = 2, Choir = 3, Solo = 4.

P Ch: The channel that pistons appear on. Normally this is set to 8 for all keystrips in a stack. This allows for 25 pistons on each keyboard and maps into the defined names for the various piston buttons { kyb1_1 to kyb1_25, kyb2_1 to kyb2_25 … }

A Ch: Analog reporting channel: Only has meaning for analog pots that may be attached to the short keystrip.

Strip: This is the keystrip number in a set for a manual. 1 = 1st long keystrip, 5 = short keystrip.

L/R: L = keystrips installed so that the long strip is on the left or R = long keystrip on the right.

U/D: D = magnet moves towards the key sensor to activate note , U = magnet moves away from the sensor to activate.

T: 2nd touch option

V = 1st touch velocity option

P En: Piston enables – shows 1s for the pistons that are to be active. Normally just set to all ones.

A En: Analog enables – only for the short keystrip and shows the analog inputs that are enabled. If no analogs connected this should be set to 0's to stop babbling analog.

Thr1: 1st touch threshold. Normally about 0x80 but can be higher or lower depending on mounting and preferences.

Thr2: 2nd touch threshold. Normally about 0xC0 but can be higher or lower depending on mounting and preferences.

Hyst: normally set to 3.

Kofst: This is used to optimize each individual sensor for dc offsets that may be present in the sensor itself.
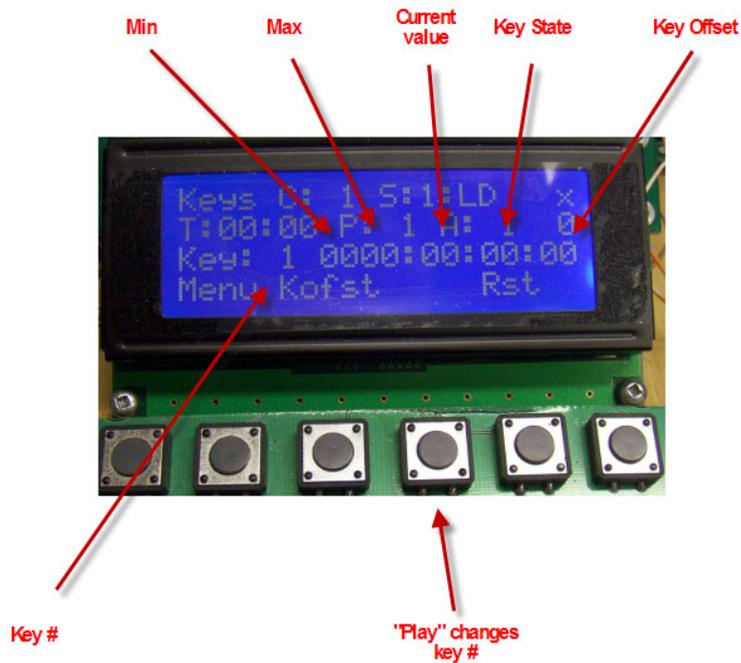
The goal in adjusting the note offset is to minimize the key offset. If a given sensor has an offset and the magnet is installed working against this offset the current key value sill be seen to decrease then increase as the key is moved.

Adjust key offset up or down to minimize key offset when key is fully off or by observing the current value so that value increases smotthly as key is pressed and decreased as key is released.

It is normal for there to be some small value of current sensor reading when key is released as the magnet is still seen by the sensor. Normally this value is only 1 or 2 compared to a key on value of 0x45 to 0x7e.

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