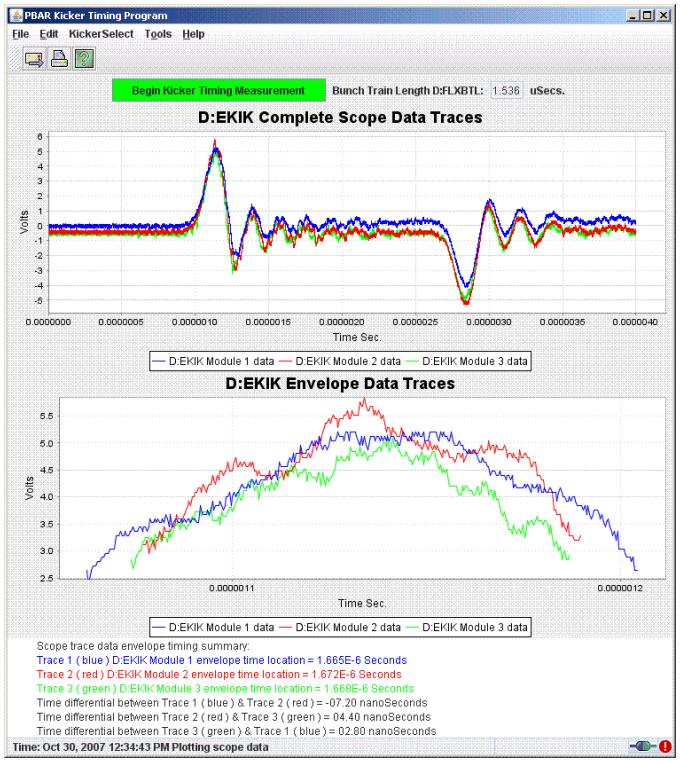
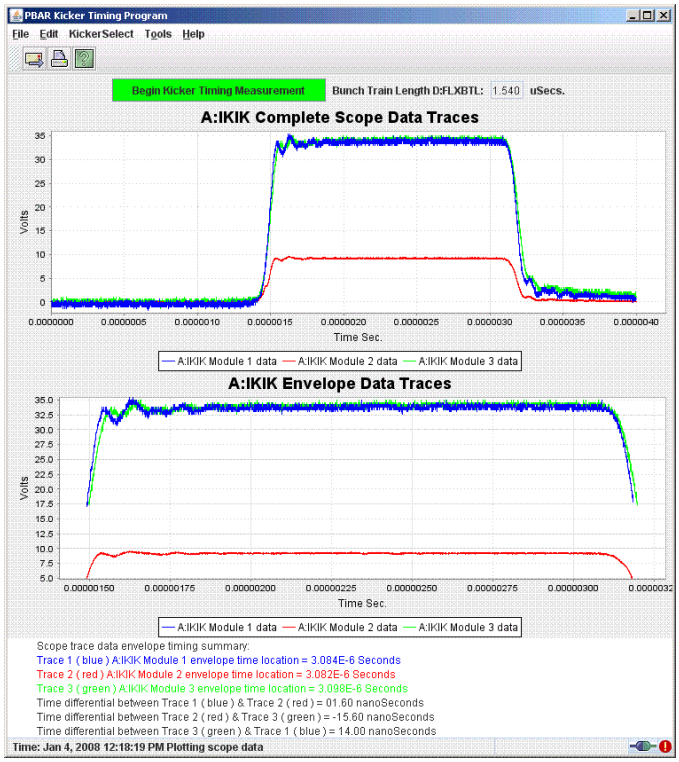
D/A Kicker Timing:

- Prerequisits:
  - We must have very stable beam.
  - If beam goes away during the process, start over.
  - For the last step (tuning A:IKIK timing mult), you will need to turn off the stacktail monitor, since it will change stacktail power.
- Start by running the Pbar Kickers Java application from http://www-bd.fnal.gov/appix/start?p=40000142&n=35000508.
- Make sure to have P60 D2A <3> up somewhere so that you can restore the kicker timers if the Java app sends bad values. You may also have to manually align one or more of the traces if you disagree with the Java app.
- Start by correcting the Debuncher Extraction Kicker.



Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar07&action=view&page=-4261&button=yes>

- Next, correct the Accumulator Injection Kicker timing.



Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar08&action=view&page=-70&button=yes>

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Linux PA P60 POWER SUPPLY PARAM
P60  D/A KICKER TIMING              SET     D/A   A/D  Com-U ♦PTools♦
-<FTP>+ *SA♦ X-A/D  X=A:IKIKM1 Y=A:SPTW05,A:SPTW09,A:IBMINJ,
COMMAND ...X Eng-U  I= 270.681 I= 0       , 0       , 0       ,-10
-< 3>+  One+ AUTO   F= 271.681 F= 40      , 40      , 20      , 10
acc10 acc30 acc50 deb10 deb30 deb50 protn  inj  DTOA  ext   bostr
 !D:EXTRAC SHOULD BE ON INPUT A FOR STACKING
-D:R2LLAM     DRF2 LLRF AMPLITUDE          6        6.04   VOLT .
 D:EXTRAC     D TO A TRANSFER CONTROL                          AH
 D:R2HLSC     DRF2 Hi Lvl Stat/Cntrl                           . .

 MULT    :6
-D:EKIKM1*.5  DEB EXT KI  271.795    271.786     271.786   USEC ..
-D:EKIKM2*.5  DEB EXT KI  271.849    271.792     271.792   USEC ..
-D:EKIKM3*.5  DEB EXT KICKER MAIN C  271.965     271.965   USEC ..
-A:IKIKM1*.5  ACC IN KIC  271.181    271.149     271.149   USEC ..
-A:IKIKM2*.5  ACC IN KIC  271.203    271.171     271.171   USEC ..
-A:IKIKM3*.5  ACC IN KIC  271        270.968     270.968   USEC ..

-A:IBMINJ     Stail mon inject be  6.478   6.806    6.806  e07


 MULT    :3   A:IKIK TIMING
-A:IKIKM1*.5  ACC IN KIC  271.181    271.149     271.149   USEC ..
-A:IKIKM2*.5  ACC IN KIC  271.203    271.171     271.171   USEC ..
-A:IKIKM3*.5  ACC IN KIC  271        270.968     270.968   USEC ..


-D:ESEPC      DEB EXT SEPT CHARGE T  .2          .2        SECS ...-

 D:R2HLFB     DRF2 Fanback Voltage                   230.7  Volt
 D:R2HLSC     DRF2 Hi Lvl Stat/Cntrl                           . .

 MULT    :3   D:EKIK TIMING
-D:EKIKM1*.1  DEB EXT KI  271.795    271.786     271.786   USEC ..
-D:EKIKM2*.1  DEB EXT KI  271.849    271.792     271.792   USEC ..
-D:EKIKM3*.1  DEB EXT KICKER MAIN C  271.965     271.965   USEC ..



-D:SA13T      Trigger for D:SB13SA   1.7         1.7       secs ..
 A:STCKRT     Pbar Stacking Rate                    12.58  mA/h
 A:PRDCTN     PBARS PER P @ TOR109                  16.55  E-6
 Z:PRDTMP     PBARS PER P @ TOR109                  16.65  E-6

-D:EKIKEC     DEB-EKIK error count   808585464   808585464 cnt
-A:IKIKEC     ACC-IKIK e  814304785  814306861   814306865 cnt
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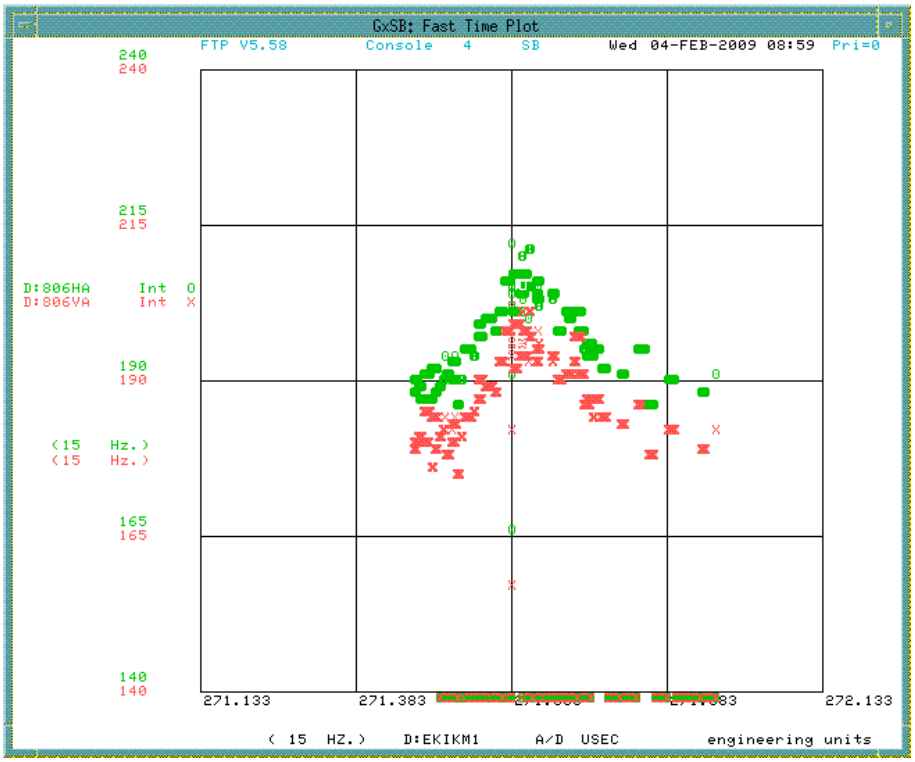
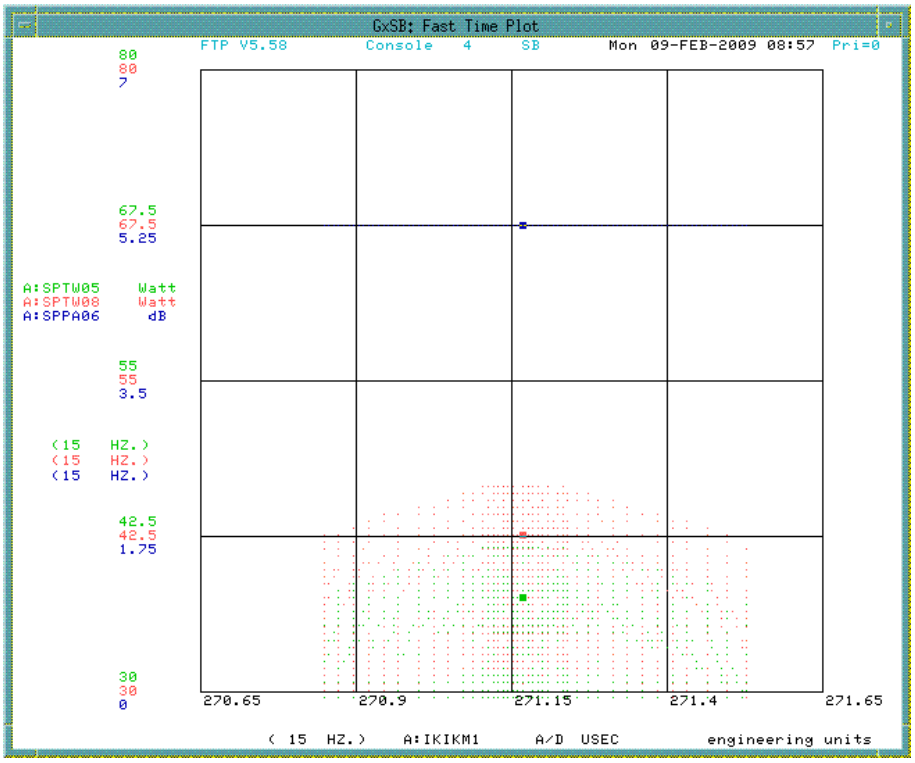
Pasted from <http://www-bd.fnal.gov/cgi-mach/machlog.pl?nb=pbar07&action=view&page=-4264&button=yes&invert=yes>

- Next, we tune the D:EKIK three mult to maximize beam intensity, as measured the the SEM806 area, down the D/A line.



- Next, we align A:IKIK to D:EKIK by tuning the A:IKIK timer three mult to maximize stacktail power. The stacktail monitor must be off for this step, and no changes made to the stacktail attenuator. Don't spend too much time on this because the stacktail power naturally increases as the beam in the accumulator increases.



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- Make sure to document all changes in the Pbar Elog

- Make sure to document all changes in the Pbar Elog

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PA P60 POWER SUPPLY PARAM
P60  D/A KICKER TIMING              SET     D/A   A/D  Com-U ♦PTools♦
-<FTP>+ *SB♦ X-A/D  X=D:EKIKM1 Y=D:806HA ,D:806VA ,         ,
COMMAND ...X Eng-U  I= 270.633 I= 140    , 140    ,-10     ,-10
-< 3>+  One+ AUTO   F= 272.633 F= 240    , 240    , 10     , 10
acc10 acc30 acc50 deb10 deb30 deb50 protn  inj  DTOA  ext   bostr
 !D:EXTRAC SHOULD BE ON INPUT A FOR STACKING
-D:R2LLAM     DRF2 LLRF AMPLITUDE          6        6.04   VOLT .
 D:EXTRAC     D TO A TRANSFER CONTROL                          AH
 D:R2HLSC     DRF2 Hi Lvl Stat/Cntrl                            . .

 MULT    :6
-D:EKIKM1*.5  DEB EXT KI  271.633    271.652     271.652   USEC ..
-D:EKIKM2*.5  DEB EXT KI  271.77     271.744     271.744   USEC ..
-D:EKIKM3*.5  DEB EXT KI  271.925    271.944     271.944   USEC ..
-A:IKIKM1*.5  ACC IN KICKER MAIN CH  271.153     271.153   USEC ..
-A:IKIKM2*.5  ACC IN KICKER MAIN CH  271.155     271.155   USEC ..
-A:IKIKM3*.5  ACC IN KICKER MAIN CH  270.958     270.958   USEC ..

-A:IBMINJ     Stail mon inject be  16.31   17.19    17.19  e07
-A:SPPA06     Stack Tail PIN Atte  5.75    4.5    * 4.5     dB     M

 MULT    :3   A:IKIK TIMING
-A:IKIKM1*.5  ACC IN KICKER MAIN CH  271.153     271.153   USEC ..
-A:IKIKM2*.5  ACC IN KICKER MAIN CH  271.155     271.155   USEC ..
-A:IKIKM3*.5  ACC IN KICKER MAIN CH  270.958     270.958   USEC ..


-D:ESEPC      DEB EXT SEPT CHARGE T  .2          .2        SECS ...-

 D:R2HLFB     DRF2 Fanback Voltage                   233.4  Volt
 D:R2HLSC     DRF2 Hi Lvl Stat/Cntrl                            . .

 MULT    :3   D:EKIK TIMING
-D:EKIKM1*.1  DEB EXT KI  271.633    271.652     271.652   USEC ..
-D:EKIKM2*.1  DEB EXT KI  271.725    271.744     271.744   USEC ..
-D:EKIKM3*.1  DEB EXT KI  271.925    271.944     271.944   USEC ..



-D:SA13T      Trigger for D:SB13SA   2           2         secs ..
 A:STCKRT     Pbar Stacking Rate                    27      mA/h
 A:PRDCTN     PBARS PER P @ TOR109                  20.92   E-6
 Z:PRDTMP     PBARS PER P @ TOR109                  20.92   E-6
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